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Données sur les sédiments

1989

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WATER RESOURCES BRANCH
WATER SURVEY OF CANADA
OTTAWA, CANADA, 1990

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PREFACE

This publication was prepared by personnel of the Sediment Survey Section, Water Survey of Canada Division, under the direction of the Director, Water Resources Branch, Department of the Environment, Ottawa.

The basic data were collected and compiled under the supervision of the Regional Chief of the Water Resources Branch at Guelph, Ontario.

The co-operation received from provincial agencies and from other organizations is gratefully acknowledged.

PRÉFACE

Le groupe d'étude des sédiments de la Division des relevés hydrologiques du Canada, sous l'autorité du directeur des Ressources en eau du ministère de l'Environnement, à Ottawa, a préparé la présente publication.

Le chef régional de la Direction des ressources en eau, à Guelph (Ontario), a supervisé la collecte et la compilation des données de base.

Nous remercions vivement les organismes provinciaux, ou autres, pour leur collaboration.

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INTRODUCTION

The Water Resources Branch of the Department of the Environment herein presents for the 1989 calendar year the annual suspended sediment data and a historical data summary for the sediment survey investigations conducted in Ontario by the Water Survey of Canada.

Data on the character and quantity of fluvial sediments provided by sediment survey investigations are intended for use in studies of water quality, environmental impacts, river processes and behaviour, and engineering design.

General introductory information on the sediment survey is included in this publication. Similar information for the associated hydrometric survey is given in the regular publications containing surface water data.

Details on individual stations and related records, as well as recent data that have not yet been published, may be obtained upon application to:

Water Resources Branch,
Department of the Environment,
Federal Building,
75 Farquhar Street,
Guelph, Ontario.
N1H 3N4
(519 821-0110)

or to the Water Resources Branch, Department of the Environment, Ottawa, Ontario, K1A 0H3 (819 997-2098).

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INTRODUCTION

Dans la présente publication de la Direction des ressources en eau du ministère de l'Environnement, on trouvera les données annuelles sur les sédiments en suspension pour 1989 et le sommaire des données chronologiques sur les sédiments, à la suite des études effectuées dans les cours d'eau de l'Ontario par la Division des relevés hydrologiques du Canada.

Les données recueillies sur la nature et l'importance de la charge solide dans les cours d'eau doivent servir aux études portant sur la qualité des eaux, les incidences environnementales, les processus fluviaux, le comportement des cours d'eau et la conception de projets.

La presente publication contient des renseignements généraux préliminaires sur les études des sédiments. Des renseignements semblables sur les études hydrométriques connexes sont contenus dans les publications régulières présentant des données sur les eaux de surface.

On peut obtenir des renseignements supplémentaires sur les stations et les relevés, ainsi que des données récentes non encore publiées, en s'adressant au:

Direction des ressources en eau
Ministère de l'Environnement
Édifice fédéral
75, rue Farquhar
Guelph (Ontario)
N1H 3N4
(519 821-0110)

ou au Direction des ressources en eau, ministère de l'Environnement, Ottawa (Ontario), K1A 0H3 (819 997-2098).

SCOPE OF PUBLICATION

Descriptive information about sediment stations is given. This refers to the Location, Latitude and Longitude, Drainage Area and whether the flow is Natural Flow or Regulated Flow (the year that regulation began is given, if known), Type of Gauge and the Total Suspended Sediment Load in Tonnes for the Period of Record is also included. International Gauging Stations are identified and the names of co-operating agencies who supply data are given; unusual conditions at the sediment station that could affect the data results are explained under "Remarks".

This publication contains data on streamflow, instantaneous suspended sediment concentration; daily mean suspended sediment concentration; daily suspended sediment loads; dissolved solids concentration; load summary; particle-size distribution of suspended sediment in percent sand, silt and clay; bed load and bed material; water temperature when samples were collected; type of sampler and the single sampling vertical location.

A historical sediment data summary includes such information as Sampled Concentration Maximum and Minimum; Suspended Sediment Load Maximum Daily and the Total for Period. The Period of Record and the Type of Operation for each year of data are also given. A Summary for the Months of record gives the Period of Record Mean, the Mean for Period of Record and the Standard Error of Mean as a percent.

HISTORY AND OBJECTIVES OF SEDIMENT SURVEYS IN CANADA

In Canada, investigations of sediment transported by streams were first undertaken by individual organizations or agencies in 1948, to meet the needs of federal and provincial agencies for assessment of particular projects. Although the investigations were extended to meet expanding needs after 1948, it was not until 1961 that a systematic survey was undertaken by the Water Resources Branch.

The sediment survey program has the following objectives:

(1) Collection and provision of data related to sediment transport in Canadian rivers for applications in water resource engineering, water quality and environmental studies.

(2) Provision of information and advice related to sediment transport.

(3) Assessment, improvement and standardization of equipment and techniques used in Canada's sediment survey program.

PUBLICATION OF SEDIMENT DATA

Sediment data have been published in a variety of formats since the beginning of the Sediment Survey Program.

PORTÉE DE LA PUBLICATION

Des données descriptives sont présentées sur les stations d'étude des sédiments. Elles concernent leur emplacement, leurs latitude et longitude, leur bassin versant, la nature de débit (naturel ou régularisé, avec indication, le cas échéant, de l'année où la régularisation a commencé, si elle est connue), le type d'instrument de mesure employé et le débit total des sédiments en suspension (en tonnes) pour la période de relevé. Les stations internationales de jaugeage sont indiquées, ainsi que le nom des organismes qui fournissent les données. Des explications concernant des conditions exceptionnelles qui ont pu influer sur les résultats sont présentées dans la partie «Remarques».

Cette publication renferme des données sur le débit des cours d'eau, les concentrations instantanées de sédiments en suspension, les concentrations journalières moyennes de sédiments en suspension, les débits journaliers de sédiments en suspension, les concentrations de matières dissoutes, les débits solides totaux (résumés), la granulométrie des sédiments en suspension exprimée en pourcentage de sable, de limon et d'argile, le charriage et les matériaux du lit, la température de l'eau au moment de l'échantillonnage, le type d'échantillonneur employé et l'emplacement des verticales de prélèvement d'échantillons uniques.

Un résumé des données historiques sur les sédiments est inclus. On y trouve divers renseignements comme les concentrations maximale et minimale mesurées, le débit journalier maximal des sédiments en suspension et le total pour la période. La période de relevé et le type d'exploitation des stations sont indiqués pour chaque année. Dans un résumé pour les mois de relevé, on donne la moyenne pour chaque période et pour l'ensemble des périodes de relevé ainsi que l'erreur-type de la moyenne, en pourcentage.

HISTORIQUE ET OBJECTIFS DES ÉTUDES DES SÉDIMENTS AU CANADA

Au Canada, les études dans ce domaine ont débuté en 1948 en réponse aux besoins exprimés par certains organismes fédéraux et provinciaux pour l'évaluation de projets donnés et étaient le fait d'organismes privés. Bien que les études se soient poursuivies après 1948 pour satisfaire aux besoins accrus, ce n'est qu'en 1961 que la Direction des ressources en eau les a entreprises de façon systématique.

Les buts de ces études sont de:

(1) réunir et produire des données sur les transports solides dans les cours d'eau canadiens, données dont on peut avoir besoin pour des études concernant l'environnement, la qualité des eaux et la conception de projets portant sur les ressources en eau.

(2) produire des informations concernant les transports solides.

(3) évaluer, améliorer et uniformiser le matériel et les techniques employés dans le programme d'étude des sédiments au Canada.

PUBLICATION DES DONNÉES SUR LES SÉDIMENTS

Depuis le début du programme d'étude des sédiments, la présentation des données a varié.

During the years 1948 to 1960, some sediment data were collected for sever. . Prairie rivers to meet the needs of particular projects. The first Water Resources Paper series containing sediment data incorporated a selection of these data and also data for part of the year ending September 30, 1961, at stations established for the continuing program. The second issue was a biennial publication covering only the continuing program for the 1962 and 1963 water years. All subsequent editions titled *Sediment Data Canadian Rivers* have been published annually. The sediment data since 1978 have been presented entirely in the International System of Units (SI).

Commencing with 1984, the *Sediment Data* were published in a new format wherein Canada was divided into eight regions. The provinces each represent a separate region except for New Brunswick, Newfoundland, Nova Scotia and Prince Edward Island, which together form the Atlantic Provinces region, and the Yukon and Northwest Territories which make up another. The publications are identified by the province or territories covered and the year in which the data were collected. These data are published annually on a calendar-year basis and the stations are listed alphabetically.

A new edition, *Miscellaneous Sediment Data 1966 to 1983*, was published. It contains a tabulation of locations in Canada where miscellaneous data were collected but not previously published by the Water Survey of Canada. The following data are included in this one time publication: date and time of sample collection; instantaneous discharge or daily mean discharge; sampling vertical; instantaneous concentration; dissolved solids for some samples; type of sampler used; particle size distribution of suspended sediment in percent sand, silt and clay for some depth integrated samples and/or measurements, and some point integrated measurements; particle size distribution of bed load; particle size distribution of bed material; and the water temperature at time of sampling for some samples is also given where available.

The first edition of a *Sediment Data Reference Index* was published for data to 1972. It contains a tabulation of locations in Canada where sediment data were collected by the Water Survey of Canada. The index has been subdivided alphabetically by province or territory, with sediment survey stations also listed alphabetically. Commencing with the 1978 publication, data are presented in the International System of Units (SI) and will continue to be published biennially. The latest edition supersedes all previous editions because it contains any corrections or additions since the last publication.

The first edition of a new publication series titled *Historical Sediment Data Summary for Canadian Rivers* was produced for data to 1974. This publication contains a summary of historical monthly and annual mean suspended sediment load, and annual extremes of daily suspended sediment concentration and loads and total annual suspended load. Commencing with the 1978 publication, data are presented entirely in the International System of Units (SI). This publication has been discontinued, as much of the information is now included in the new annual *Sediment Data* publication.

De 1948 à 1960, on a recueilli des données pour plusieurs cours d'eau des Prairies en prévision de la réalisation de certains projets. La première publication contenant des données sur les sédiments a paru dans la série intitulée *Water Resources Paper*; elle présentait un choix de ces données ainsi que des données recueillies en 1961 avant le 30 septembre à des stations établies pour la réalisation du programme permanent. La deuxième publication a porté sur les données recueillies dans le cadre du programme au cours des années hydrologiques 1962 et 1963. Par la suite, les données ont été publiées annuellement sous le titre *Données sur les sédiments - rivières canadiennes*. Depuis 1978, les données sont exprimées en unités du Système international (SI).

En 1984, la présentation des *Données sur les sédiments* a été modifiée. Le Canada a été divisé en huit régions, une région pour chaque province, sauf le Nouveau-Brunswick, Terre-Neuve, la Nouvelle-Écosse et l'Île-du-Prince-Édouard qui, ensemble, forment la région des provinces de l'Atlantique, et les Territoires du Yukon et du Nord-Ouest, qui forment une autre région. Les publications sont nommées selon la région couverte et l'année des données (année civile). Ces publications sont annuelles. Les stations y sont présentées par ordre alphabétique.

Une édition récente intitulée *Données diverses sur les sédiments, 1966 à 1983* vient de paraître. On y présente sous forme de tableau les emplacements où des données diverses non encore publiées ont été recueillies au Canada par la Division des relevés hydrologiques. Cette première édition comprend des données telles que : la date et la durée de l'échantillonnage; le débit instantané ou débit journalier moyen; la verticale d'échantillonnage; les concentrations instantanées; les concentrations de matières solides en solution pour certains échantillons; le type d'échantillonneur employé; la granulométrie des sédiments en suspension en pourcentage de sable, de limon et d'argile, dans le cas de mesures avec intégration selon la profondeur ou d'échantillons intégrés sur toute la profondeur, et dans le cas de mesures par la méthode ponctuelle; la granulométrie du charriage; la granulométrie des matériaux du lit; la température de l'eau lors du prélèvement d'échantillons, lorsque celle-ci est connue.

Un *Index de référence des données sur les sédiments* est publié. La première édition portait sur les données disponibles jusqu'en 1972. Les emplacements où des données sur les sédiments ont été recueillies au Canada par la Division des relevés hydrologiques y sont présentés sous forme de tableau. L'*Index* est subdivisé selon l'ordre alphabétique par province ou territoire, et les stations de mesure des sédiments sont classées par ordre alphabétique. À partir de 1978, les données sont exprimées en unités du Système international (SI). L'*Index* est publié tous les deux ans; l'édition la plus récente annule toutes les éditions antérieures, car elle renferme toutes les corrections et mises à jour effectuées depuis la dernière parution.

Une autre série de publications a porté le titre *Sommaire chronologique des données sur les sédiments de rivières canadiennes*. La première édition renfermait les données disponibles jusqu'en 1974. Cette série présentait un résumé donnant les moyennes mensuelles et annuelles historiques du débit des sédiments en suspension, les valeurs annuelles extrêmes de la concentration journalière et du débit journalier des sédiments en suspension et le débit annuel total des sédiments en suspension. À partir de 1978, les données ont été présentées en unités du Système international (SI). Cette série a été abandonnée, car une bonne partie de l'information est maintenant contenue dans la nouvelle publication annuelle intitulée *Données sur les sédiments*.

COLLECTION AND PROCESSING OF BASIC DATA

1. *Equipment and Instrumentation*

The sediment survey program of the Water Resources Branch is conducted in cross sections on rivers selected specifically for the sediment survey or for the hydrometric survey. Certain cross sections are located at traffic bridges, while others are equipped with cableways, or automatic pump samplers.

The following sediment samplers have been used in the sediment survey program:

(a) Depth-integrating suspended sediment wading-type hand sampler, USDH-48, used on small streams or during winter periods.

(b) Depth-integrating suspended sediment sampler, USDH-59, used as a handline suspension for small and medium size streams.

(c) Depth-integrating suspended sediment samplers, USD-49, USD-74, and USD-77, used on a reel suspension for medium and large streams whose depths are less than five metres.

(d) Point-integrating suspended sediment samplers, USP-61, USP-61-A1, USP-63, and USP-72, used for point-integrating sampling, or depth-integrating sampling if the depth is over five metres, or in a cross section with velocities up to two metres per second.

(e) Automatic pump sampler is an automatic pumping system permitting unattended collecting and bottling of individual water samples pumped from a fixed point in a stream. This sampler is normally installed at isolated locations where otherwise no data would be available during ice break-up or peak periods.

(f) Bed material sampler, USBM-54, used on large or deep streams or on those streams with hard-packed streambeds.

(g) Bed material sampler, USBMH-60, used on some large or deep streams or on those streams with soft-packed streambeds.

(h) Bed material sampler, USBMH-53, used on some small or shallow streams.

(i) Lane bed material sampler, a drag-type sampler used on small streams or those with soft streambeds.

2. *Hydrometric Surveys*

The hydrometric survey includes the standard procedures for observations of water levels, streamflow measurements, water surface slope determinations if required, and observations of water temperature. The streamflow measurements are made in conjunction with the sediment load measurements and conform to the accepted standards of the regular hydrometric survey.

3. *Sediment Sampling Program*

The following is a summary of the elements associated with the Sediment Sampling Program:

(a) Periodic measurement of suspended sediment load by the

COLLECTE ET TRAITEMENT DES DONNÉES DE BASE

1. *Matériel*

L'étude des sédiments réalisée par la Direction des ressources en eau porte sur des sections transversales de cours d'eau choisis spécialement à cette fin ou pour les relevés hydrométriques. Certaines sections sont situées sous un pont, d'autres sont accessibles par téléphérique, ou sont étudiées à l'aide d'un échantillonneur sous pression.

On a utilisé les échantillonneurs suivants:

(a) L'échantillonneur intégrateur selon la profondeur, type simple, USDH-48, employé dans les cours d'eau peu profonds ou en hiver;

(b) L'échantillonneur intégrateur selon la profondeur USDH-59, utilisé comme une ligne dans les cours d'eau petits et moyens;

(c) Les échantillonneurs intégrateurs selon la profondeur USD-49, USD-74, et USD-77, fixés au bout d'une corde s'enroulant autour d'un moulinet et employés dans les cours d'eau gros ou moyens dont la profondeur est inférieure à cinq mètres;

(d) Les échantillonneurs intégrateurs USP-61, USP-61-A1, USP-63 et USP-72, employés ponctuellement ou sur toute la verticale, et utilisés lorsque la profondeur est supérieure à cinq mètres ou dans les sections transversales qui connaissent un débit qui atteint 2 m/s.

(e) Un échantillonneur automatique permettant le prélèvement en bouteilles, sans surveillance, d'échantillons uniques d'eau obtenus à l'aide d'une pompe en un point précis d'un cours d'eau; il est ordinairement installé dans un endroit isolé où aucune donnée ne pourrait être obtenue autrement au cours de la débâcle ou des périodes de débit de pointe;

(f) L'échantillonneur USBM-54 employé pour le prélèvement d'échantillons des matériaux du lit dans les cours d'eau importants ou profonds ou dans les cours d'eau dont le fond est dur;

(g) L'échantillonneur USBMH-60 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau importants ou profonds, ou dans les cours d'eau dont le fond est meuble;

(h) L'échantillonneur USBMH-53 employé pour le prélèvement d'échantillons des matériaux du lit dans certains cours d'eau petits ou peu profonds;

(i) La drague employée pour le prélèvement d'échantillons des matériaux du lit dans de petits cours d'eau ou dans des cours d'eau dont le fond est meuble.

2. *Relevés hydrométriques*

Le relevé hydrométrique comprend, entre autres, l'observation de la hauteur des eaux, la mesure du débit de l'eau, la détermination de la pente de la ligne d'eau, si nécessaire, ainsi que l'observation de la température de l'eau. Les mesures du débit de l'eau et du débit des sédiments se font conjointement, suivant les méthodes acceptées.

3. *Échantillonnage des sédiments des cours d'eau*

L'échantillonnage comporte, en gros, les éléments suivants:

(a) La mesure périodique du débit des sédiments en suspension par la méthode d'intégration sur toute la profondeur

depth-integrating method for determining the average suspended sediment concentration in the cross section.

(b) Single suspended sediment samples at a selected vertical for determining the sediment concentration for the days when suspended sediment load measurements are not taken.

(c) Limited measurement of suspended sediment load by the point-integrating method for checking depth-integrated measurements and for determining particle-size distribution in the cross section.

(d) Sampling of bed material for determining particle-size distribution.

(e) Periodic measurement of bed load.

The following is a brief explanation of the elements listed above:

(a) *Suspended Sediment Load by Depth-Integrating Method*: Measurements are made by the depth-integrating method to determine the suspended sediment load in the entire cross section of a stream, the average suspended sediment concentration in the cross section, and the size distribution of the sediment particles. It is known that the concentration of suspended sediment tends to increase from the water surface to the streambed and could vary from streambank to streambank.

When making suspended sediment equal-discharge-increment (EDI) measurements, the stream cross section is divided into at least five equal-flow panels and a representative suspended sediment sample is collected from each portion. For each panel of the cross section, the suspended sediment load (r) may then be computed by multiplying the flow (q) by the suspended sediment concentration (c):

$$r = q\ c$$

The suspended sediment load (R) for the cross section may be computed by adding the sediment loads for the five equal-flow panels:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

The depth-integrating method of sampling is used to measure the suspended sediment concentration. This method is based on the premise that the sampler fills at a rate proportional to the velocity of the approaching flow, and that by traversing the depth of a stream at a uniform speed, the sampler will receive a portion of water sediment mixture at every point in the vertical.

(b) *Single Suspended Sediment Samples at a Selected Vertical*: Single suspended sediment samples, consisting of two bottles each, are collected routinely using the depth or point-integrating samplers at a permanently fixed vertical in a cross section. During periods of very heavy sediment concentration, two or three single sediment samples may be taken per day, while during periods of low concentration, one single sediment sample may only be taken every few days. During extremely low flow periods, the sampling may be limited to one single sample in several weeks or months.

(c) *Suspended Sediment Load by Point-Integrating Method*: A limited number of suspended sediment load measurements are made by the point-integrating method. These measurements are included in the program (a) to check by comparison the "measured" sediment loads obtained by the depth-integrating method with the suspended sediment loads by the point-integrating method and (b) to obtain samples from which to determine particle-size distribution

pour la détermination de la concentration moyenne dans une section transversale;

(b) Le prélèvement d'échantillons uniques des sédiments en suspension selon une verticale choisie, afin de déterminer la concentration des sédiments les journées où le débit des sédiments en suspension n'est pas mesuré;

(c) Un nombre restreint de mesures du débit des sédiments en suspension avec intégration en un point précis d'un cours d'eau, afin de vérifier les résultats des mesures avec intégration selon la profondeur et afin de déterminer la granulométrie des particules de sédiments dans une section transversale d'un cours d'eau;

(d) L'échantillonnage des matériaux du lit afin d'en déterminer la granulométrie;

(e) La mesure périodique du charriage.

Voici une brève description des éléments susmentionnés.

(a) *Mesure du débit des sédiments en suspension par intégration selon la profondeur*: La méthode permet de déterminer le débit des sédiments en suspension traversant toute une section transversale d'un cours d'eau, la concentration moyenne des sédiments en suspension dans la section transversale et la granulométrie des sédiments en suspension. C'est un fait connu que la concentration des sédiments en suspension augmente généralement avec la profondeur et qu'elle peut varier d'une rive à l'autre d'un cours d'eau.

Avec la méthode d'incréments de débits égaux (IDE), la mesure du débit des sédiments en suspension se fait en divisant une section transversale d'un cours d'eau en au moins cinq tranches où le débit est égal et en prélevant un échantillon représentatif dans chacune d'elles. Le débit des sédiments en suspension (r) pour chaque tranche se calcule en multipliant le débit (q) par la concentration des sédiments en suspension (c):

$$r = q\ c$$

Le débit des sédiments en suspension (R) pour la section transversale est la somme des débits des sédiments des cinq tranches:

$$R = r\ n = q_1c_1 + q_2c_2 + \ldots + q_nc_n$$

La méthode par intégration sur toute la profondeur est employée pour mesurer la concentration des sédiments en suspension. Elle suppose que l'échantillonneur se remplit à un rythme proportionnel au débit de l'eau et qu'en étant déplacé à une vitesse uniforme sur toute la verticale, il reçoit une partie du mélange eau-sédiments à tous les points de celle-ci.

(b) *Prélèvement d'échantillons uniques de sédiments en suspension sur une verticale choisie*: De tels échantillons, constitués chacun de deux bouteilles, sont prélevés régulièrement à l'aide d'appareils intégrateurs, selon la profondeur ou ponctuels, sur une verticale permanente d'une section transversale. Lorsque la concentration des sédiments est très forte, deux ou trois échantillonnages peuvent être effectués chaque jour, alors qu'un seul échantillon peut être prélevé à quelques jours d'intervalle lorsqu'elle est faible. Au cours des périodes où le débit est extrêmement faible, l'échantillonnage peut être limité à un échantillon toutes les quelques semaine ou tous les quelques mois.

(c) *Mesure du débit des sédiments en suspension par la méthode ponctuelle*: Un nombre limité de mesures du débit des sédiments en suspension sont faites avec cette méthode. On y a recours a) pour vérifier les valeurs du débit mesurées au moyen de la méthode précédente et b) pour obtenir des échantillons en vue de déterminer la granulométrie des sédiments en divers points de la

at different points in the cross section. The point-integrating sediment loads are computed by graphical methods.

The relationship between the suspended sediment concentration of the single vertical samples and the average concentration in the cross section determined from the suspended sediment load measurements is established for some stations. Using this relationship, the sediment concentrations of the single vertical samples are adjusted to reflect the average suspended sediment concentration in the cross section. These average sediment concentrations in the cross sections are plotted, and a smooth curve is drawn through the points to obtain a concentration graph. This graph represents the average suspended sediment concentration for the period of record. The daily mean concentrations are determined by automated procedures using a digitizer interfaced with a Digital minicomputer.

The daily suspended sediment loads are computed on the basis of stream discharges and the collected suspended sediment concentrations. The daily suspended sediment loads are expressed in tonnes per day and are obtained by multiplying the daily mean sediment concentration (mg/L), by the daily mean discharge (m^3/s), and the conversion factor, 0.0864.

(d) *Bed Material Sampling*: In a cross section, bed material samples are usually taken in the same sampling verticals as the suspended sediment samples. Often, additional bed material samples are collected at the water edge, the extreme water level or at other points in the cross section. The total number of bed material samples taken in a cross section usually varies between five and nine.

(e) *Bed Load Measurement*: There are several methods available for measurement of bed load (volumetric method, measurement by samplers, method of tracers, method of constricted cross section, study of sound waves, etc.). The measurement methods should be selected in accordance with river regime.

4. *Total Sediment Load*

Sediment transport may be divided into two categories: sediment maintained in suspension in the stream (suspended load), and sediment being carried along the streambed (bed load). To measure the total sediment load, each of these must be measured separately and then totalled. The total sediment load was not computed for this publication.

5. *Sediment Survey Laboratories*

The Water Resources Branch maintain sediment survey laboratories in New Westminster, British Columbia; Regina, Saskatchewan; Guelph, Ontario; and Moncton, New Brunswick. The laboratories are equipped to perform the following analyses:

(a) determination of sediment concentration by (1) filtration method, (2) evaporation method and (3) determination of total dissolved solids by evaporation method.
(b) particle-size distribution analysis by (1) bottom withdrawal tube method, (2) sieving and (3) hydrometer method.

Determination of the sediment concentration by the evaporation method is carried out by evaporating the water from the settled sediment sample, with the results being corrected for dissolved solids. The quantity of dissolved solids is determined by evaporating a portion of the decanted water of a sample. In the filtration method, the suspended sediment concentration of water samples is determined by utilizing Gooch crucibles with a Reeve Angel 934AH filter and a Millipore AP20 prefilter and a vacuum system.

section transversale. Cette méthode fait appel à des graphiques pour le calcul du débit des sédiments.

Le rapport entre la concentration des sédiments en suspension dans les échantillons prélevés sur une seule verticale et la concentration moyenne dans la section transversale, telle que déterminée à partir des mesures du débit des sédiments en suspension, est établi pour quelques stations. Il permet de corriger les concentrations mesurées à une seule verticale de manière à donner la concentration moyenne dans la section transversale. Les concentrations moyennes ainsi déterminées sont reportées sur un graphique, et une courbe lisse passant par les points marqués est tracée. Le graphique obtenu représente la concentration moyenne des sédiments en suspension pour la période de relevé. Les concentrations moyennes quotidiennes sont déterminées automatiquement à l'aide d'un convertisseur analogique-numérique relié à un mini-ordinateur numérique.

Les valeurs journalières du débit des sédiments en suspension sont calculées à partir du débit du cours d'eau et des concentrations des sédiments en suspension recueillis. Elles sont exprimées en tonnes par jour. On les détermine en multipliant la concentration moyenne journalière des sédiments (mg/L) par le débit moyen journalier (m^3/s) et par un facteur de conversion approprié, 0.0864.

(d) *Échantillonnage des matériaux du lit*: Dans une section transversale, les échantillons des matériaux du lit sont ordinairement prélevés aux mêmes verticales que ceux des sédiments en suspension. Souvent, des échantillons supplémentaires sont pris près des rives, là où le niveau d'eau est extrême et à d'autres points de la section transversale. Leur nombre total pour une section donnée varie ordinairement entre cinq et neuf.

(e) *Mesure du charriage*: La mesure peut se faire par plusieurs méthodes (méthode volumétrique, mesure à l'aide d'échantillonneurs, méthode des traceurs, méthode de la section transversale rétrécie, étude des ondes sonores, etc.). Le choix se fondera sur la nature du régime du cours d'eau.

4. *Débit solide total*

Il y a deux catégories de sédiments: les sédiments maintenus en suspension au sein de l'eau (sédiments en suspension), et les sédiments charriés sur le lit d'un cours d'eau (charriage de fond). Les deux types de sédiments doivent être mesurés séparément et leurs valeurs additionnées si on veut mesurer le débit total des sédiments. Toutefois, on ne l'a pas calculé aux fins de la présente publication.

5. *Laboratoires d'analyse*

La Direction des ressources en eau possède des laboratoires d'analyse des sédiments à New Westminster (Colombie-Britannique), Regina (Saskatchewan), Guelph (Ontario) et Moncton (Nouveau-Brunswick). Les laboratoires disposent des appareils nécessaires pour effectuer les analyses suivantes:

(a) la détermination de la concentration des sédiments par (1) filtration, (2) évaporation, et (3) détermination des matières dissoutes totales par évaporation.
(b) l'analyse granulométrique (1) par extraction des sédiments déposés dans un tube, (2) par l'emploi de tamis et (3) par l'utilisation d'un hydromètre.

La méthode par évaporation consiste à faire évaporer l'eau d'un échantillon de sédiments décanté et à corriger les résultats pour tenir compte des matières dissoutes. La quantité de celles-ci est déterminée en faisant évaporer une partie de l'eau de l'échantillon décanté. Dans la méthode par filtration, on utilise sous vide des creusets de Gooch munis d'un filtre Reeve Angel 934AH et d'un préfiltre Millipore AP20.

Particle-size analysis was carried out for some suspended sediment samples having gross weights in the range of 0.15 to 5 g using the Bottom Withdrawal Tube method. The particle-size distribution of the Bottom Withdrawal Tube method ranges from 0.002 to 1.000 mm. The Sieve analysis method may be used for samples with a large amount of material coarser than 0.062 mm.

The particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)
Clay	0.000 24 - 0.004
Silt	0.004 - 0.062
Sand	0.062 - 2.0
Gravel	2.0 - 64.0

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analyzed in distilled water. Chemical dispersion is not used for native-water analysis.

6. *Accuracy and Reliability of Field Data and Computed Results*

The overall accuracy and degree of reliability of the sediment data is dependent upon many factors. Some of the more important of these are:

(a) accuracy and reliability of streamflow records;
(b) regime of the river;
(c) type of sampling equipment used to collect the suspended sediment samples;
(d) frequency of suspended sediment discharge measurements;
(e) frequency of individual sampling;
(f) quality of the relationship between the average suspended sediment concentration in the cross section and the concentration of the individual samples;
(g) frequency and method of bed material sampling;
(h) frequency and method of bed load measurements;
(i) accuracy and reliability of the laboratory analysis;
(j) selected methods of computation of the suspended sediment discharge;
(k) interpretation and extrapolation of sediment records.

An assessment of the quality of the records can be made by an examination of the occurrence of the symbol (S) on the daily mean concentrations.

In general, data collected during open-water periods are more reliable than those collected during periods of ice conditions or those records obtained by estimation. Further, water level data collected utilizing a water-stage recorder are more reliable and accurate than those using a manual gauge only, especially for small or flashy streams.

Une analyse granulométrique a été effectuée pour certains échantillons de sédiments en suspension ayant un poids brut dans l'intervalle de 0.15 à 5 g par la méthode de la burette (extraction des sédiments déposés, à divers intervalles). La distribution de la taille des particules déterminée par cette méthode varie de 0.002 à 1.000 mm. La méthode de tamisage peut être employée pour les échantillons ayant une forte quantité de particules de taille supérieure à 0.062 mm.

La classification granulométrique qui est utilisée dans la présente publication est conforme aux recommandations faites par l'*American Geophysical Union Subcommittee on Sediment Terminology*. La classification est la suivante:

Classification	Taille (mm)
Argile	0.000 24 - 0.004
Limon	0.004 - 0.062
Sable	0.062 - 2.0
Gravier	2.0 - 64.0

La répartition granulométrique qui est fournie dans cette publication, n'est pas obligatoirement représentative de toutes les particules qui sont transportées par un cours d'eau donné. La plupart des matières organiques sont extraites de l'échantillon qui est ensuite soumis à une dispersion mécanique et chimique avant d'être analysé dans de l'eau distillée. La dispersion chimique ne sert pas à l'analyse de l'eau naturelle.

6. *Exactitude des données et des résultats*

L'exactitude des données sur les sédiments dépend de nombreux facteurs. On peut citer, parmi les plus importants:

(a) l'exactitude des données sur les débits;
(b) le régime d'un cours d'eau;
(c) le type d'appareil d'échantillonnage utilisé pour prélever les échantillons de sédiments en suspension;
(d) la fréquence des mesures du débit des sédiments en suspension;
(e) la fréquence des échantillonnages isolés;
(f) la qualité du rapport entre la concentration moyenne des sédiments en suspension dans une section transversale et la concentration des échantillons isolés;
(g) la fréquence des échantillonnages des matériaux de fond et la méthode utilisée;
(h) la fréquence des mesures du charriage de fond et la méthode utilisée;
(i) l'exactitude des analyses de laboratoire;
(j) les méthodes de calcul du débit des sédiments en suspension;
(k) l'interprétation et l'extrapolation des données sur les sédiments.

La qualité des données peut être évaluée d'après la fréquence d'utilisation du symbole (S), avec les données sur la concentration journalière moyenne.

En général, les données recueillies au cours des périodes d'eau libre sont plus sûres que celles qui sont obtenues au cours des périodes de glaces ou par estimation. De plus, les données sur le niveau des eaux qui sont mesurées à l'aide d'un limnigraphe sont plus certaines et plus exactes que celles qui sont mesurées à l'aide d'une jauge manuelle seulement, surtout dans le cas des petits cours d'eau ou des cours d'eau à crues très rapides.

METHOD OF TABULATION OF SEDIMENT DATA

For stations where the suspended sediment load was obtained, the following data are given where available:

1. The table of *Suspended Sediment Load* includes the daily mean discharge in cubic metres per second, the daily mean concentration in milligrams per litre, and the daily suspended sediment load in tonnes per day. The total monthly discharge and total monthly sediment load are also given for each month of record.

   For stations where the sediment load in tonnes per day are produced for complete or partial years, the *Total Suspended Load* for the period is given in the descriptive information.

   For stations where only suspended sediment concentrations are obtained, the table of *Suspended Sediment Load* will not be given.

   Additional descriptive information about the sediment station is also given and will indicate the following, where applicable.

   Location – the latitude and longitude co-ordinates of the location of the gauge are given. For stations where the gauge is located an appreciable distance from the discharge measurement section, these co-ordinates give the location of the discharge measurement section.

   Drainage area – refers to that area enclosed by a topographic divide such that direct surface runoff from precipitation would drain by gravity into the stream upstream from the location of the station.

   Type of Flow – where the flow is known to be natural, this is indicated. The flow of water in many river systems is affected by upstream regulation. In some cases, the extent of this regulation is not known and therefore is not indicated. However, where the regulation is known to be "appreciable", this is indicated as well as the year that the regulation began, if known.

   Type of Gauge – refers to the installation or method used to obtain water level or discharge data:

   (a) Manual – a non-recording type of gauge from which observations of stage normally are obtained once daily.

   (b) Recording – a water-stage recorder from which continuous water levels are obtained on an analog chart. For most International Gauging Stations located in the United States, water level records are obtained utilizing a digital recorder.

   International Gauging Station – on waters adjacent to the international boundary, certain gauging stations have been

PRÉSENTATION DES TABLEAUX DE DONNÉES SUR LES SÉDIMENTS

Pour les stations de mesure du débit des sédiments en suspension, les données suivantes sont présentées, pour autant qu'elles sont disponibles:

1. Le tableau concernant le *débit des sédiments en suspension* (The table of Suspended Sediment Load) donne le débit journalier moyen de l'eau, en mètres cubes par seconde, la concentration journalière moyenne, en milligrammes par litre, et le débit journalier des sédiments en suspension, en tonnes par jour. Chaque mois les données indiquent également les débits mensuels totaux de l'eau et des sédiments.

   Dans le cas des stations où le débit des sédiments, en tonnes par jour, est fourni pour une année complète ou une partie de l'année, le total pour la période est indiqué.

   Dans le cas des stations où seule la concentration des sédiments en suspension est obtenue, ce tableau est absent.

   Des renseignements descriptifs additionnels au sujet de la station sont également présentées. On peut y apporter les précisions suivantes:

   Emplacement (Location) – La latitude et la longitude de la station de jaugeage sont indiquées. Dans les cas où l'équipement de mesure est situé à une bonne distance de la section où le jaugeage est effectué, on indique les coordonnées de cette section.

   Superficie du bassin versant (Drainage area) – Désigne la zone délimitée par une ligne de faîte de sorte que l'écoulement de surface direct provenant des précipitations est entraîné par gravité vers le cours d'eau, en amont de la station.

   Type de débit (Type of Flow) – Un débit reconnu comme naturel est indiqué. Le débit de nombreux réseaux hydrographiques est modifié par une régularisation effectuée en amont. Dans certains cas, l'importance de cette régularisation n'est pas connue, et elle n'est donc pas indiquée. Cependant, quand on sait que la régularisation est d'une certaine importance, on l'indique, ainsi que l'année où elle a débuté (si elle est connue).

   Type de jauge (Type of Gauge) – Il s'agit des jauges ou des méthodes de jaugeage utilisées pour obtenir les données sur le niveau ou le débit d'un cours d'eau.

   (a) *Manuel* (Manual) – Indique qu'un appareil non enregistreur est employé pour obtenir normalement une fois par jour les données sur le niveau et le débit du cours d'eau.

   (b) *Enregistreuse* (Recording) – Indique qu'un limnigraphe permet de mesurer de façon continue le niveau des eaux qui est tracé sur un graphique. La plupart des stations internationales de jaugeage des États-Unis obtiennent les données sur le niveau des eaux à l'aide d'un enregistreur numérique.

   Station internationale de jaugeage (International Gauging Station) – Dans les eaux contiguës aux frontières, on a

designated as "International" and records are approved jointly. Differences between figures published herein and corresponding figures in United States Water Supply Papers are due to variations in automated data processing techniques.

Contributed Data – if data were supplied in their entirety or partially by an outside agency, the name of this co-operating agency is given.

Remarks – contains a statement pertaining to the sediment sample collection.

2. The table of *Instantaneous Suspended Sediment Concentration* for depth-integrating samples includes the following: Date and Time of the sample collection; Water Temperature; Instantaneous Discharge at time of sampling, (if not available the daily mean discharge is given and indicated by a symbol); Single Sampling Vertical location; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used. The particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay, is given where available.

The Single Sampling Vertical Location is defined by many symbols, which are as follows, where applicable:

DIGITS - 5, 14, 130, etc., is the distance in metres from the initial point
WERB - Water's Edge RIGHT Bank
WELB - Water's Edge LEFT Bank
1QRB - One-quarter the distance FROM the RIGHT Bank
3QRB - Three-quarters the distance FROM the RIGHT Bank
1QLB - One-quarter the distance FROM the LEFT Bank
3QLB - Three-quarters the distance FROM the LEFT Bank
MID - MID STREAM
MULT - Composite sediment measurement

For the suspended sediment measurements, the Date; Time; Water Temperature at time of sampling; Discharge computed for each sampling panel; Concentration; Sampling Vertical; Dissolved Solids; Percent Sand, Silt and Clay; Type of Sampler used; and the Particle-size distribution of the Sand, Silt and Clay, in percent is given where available.

3. The table of *Split Vertical Suspended Sediment* for depth-integrating samples includes the following: Date and Time of the sample collection; Water Temperature; Instantaneous Discharge at time of sampling, (if not available the daily mean discharge is given and indicated by a symbol); Sampling Vertical; Depth of Sample (giving the depth sampled from and the depth sampled to); Concentration of Sample, in milligrams per litre, Dissolved solids, in milligrams per litre; and the Particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay are also given.

désigné certaines stations comme «internationales», et les données obtenues sont approuvées par les pays concernés. Les différences entre les chiffres publiés dans la présente publications et dans les *United States Water Supply Papers* sont dues à des variantes dans les techniques de traitement automatique des données.

Données fournies (Contributed Data) – Lorsqu'un organisme extérieur a fourni toutes les données ou une partie des données, son nom est indiqué.

Remarques (Remarks) – Renseignements au sujet du prélèvement des échantillons de sédiments.

2. Le tableau des *concentrations instantanées de sédiments en suspension* (The table of Instantaneous Suspended Sediment Concentration) pour les échantillons obtenus par intégration selon la profondeur comprend: la date et l'heure de prélèvement; la température de l'eau; son débit instantané au moment de l'échantillonnage (s'il n'est pas connu, le débit journalier moyen, avec symbole); l'emplacement de la verticale d'échantillonnage; la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage en millimètres et le pourcentage des particules est donné lorsqu'il est disponible.

Le site vertical d'échantillonnage unique est défini par plusieurs symboles dont les suivants dans certains cas :

CHIFFRE - 5, 14, 130, etc., désigne la distance en mètres à partir du point initial
WERB - Bord de l'eau, rive DROITE
WELB - Bord de l'eau, rive GAUCHE
1QRB - Un quart de la distance À PARTIR de la rive DROITE
3QRB - Trois quarts de la distance À PARTIR de la rive DROITE
1QLB - Un quart de la distance À PARTIR de la rive GAUCHE
3QLB - Trois quarts de la distance À PARTIR de la rive GAUCHE
MID - MI-DÉBIT
MULT - Mesure des sédiments mixtes

Pour les mesures des sédiments en suspension, la date, l'heure, la température de l'eau au moment de l'échantillonnage, le débit calculé pour chaque tranche de la section d'échantillonnage, la concentration et la verticale d'échantillonnage, la concentration des matières dissoutes; les pourcentages de sable, de limon et d'argile; le type d'échantillonneur employé; et la granulométrie du sable, du limon et de l'argile, en pourcentage des particules est donnée lorsqu'elle est disponible.

3. Le tableau des *sédiments en suspension fractionnés pris à la verticale* (The Table of Split Vertical Suspended Sediment) pour les échantillons obtenus par intégration selon la profondeur comprend les éléments suivants : la date et l'heure de l'échantillonnage; la température de l'eau; le débit instantané au moment de l'échantillonnage (s'il n'est pas disponible, on donne le débit moyen quotidien et on l'indique par un symbole), la verticale d'échantillonnage; la profondeur (donner la profondeur à laquelle l'échantillon a été pris); et la profondeur à laquelle l'échantillon a été attributé la concentration des échantillons, en milligrammes par litre; la concentration des matières dissoutes, en milligrammes par litre; la distribution des sédiments de la taille de particules en pourcentage en millimètres; le pourcentage de sable, de limon et d'argile.

4. The table of *Point Integrating Particle-size of Suspended Sediment* includes the following: Date and Time of the sample collection; Water Temperature; Panel Discharge for each sampling vertical; Sampling Vertical; Depth of Sample; Concentration of Sample, in milligrams per litre; Dissolved Solids in milligrams per litre, and the Particle-size distribution in percent in millimetres and the percent Sand, Silt and Clay are also given.

5. The table of *Bed Load Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent in millimetres, for each sample of bed load collected.

6. The table of *Bed Material Particle-size* includes the following: Date and Time of the sample collection; Panel Discharge; Sampling Vertical and the Type of Sampler used in the collection of the sample and the Particle-size distribution, in percent in millimetres, for each sample of bed material collected.

7. The table of *Historical Sediment Data Summary* gives the following, for the period of record, where applicable.

   (a) Record Summary
   (b) Type of Sampling
   (c) Sampled Concentration, maximum and minimum
   (d) Suspended Sediment Load, maximum daily and the total, for the period, in tonnes
   (e) Summary, including mean load, the historical mean load and the standard error of the mean in percent.

(a) The *Record Summary* gives the months of record that data are available. If the complete month is on file the symbol (C) is shown, while partial months of data are indicated by the symbol (P). Months with no data on file are indicated by (-).

(b) The *Type of Sampling* indicates the type of sampling method used to collect the sediment samples during the period of operation. If the samples were collected by manual methods this is indicated by "MANUAL." If the samples were collected by a pump sampler or some other automatic method this is indicated by "AUTO." If both manual and automatic sampling methods were used this is indicated by "DUAL."

(c) The *Sampled Concentration* gives the maximum and minimum concentration, in milligrams per litre, and the date of collection for each year of record. The extreme recorded for the period of record is indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk.

(d) The *Suspended Sediment Load* gives the maximum daily load, in tonnes, and the date of occurrence. The extreme recorded is indicated by an asterisk (*). The Total for the Period gives

4. Le tableau de la *granulométrie des échantillons ponctuels et intégrés des sédiments en suspension* (The table of Point Integrating Particle-size of Suspended Sediment) comprend: la date et l'heure de prélèvement de l'échantillon, la température de l'eau, le débit de la tranche de la section pour chaque verticale d'échantillonnage, la verticale d'échantillonnage, la profondeur de l'échantillon, la concentration des échantillons, en milligrammes par litre, la concentration des matières dissoutes, en milligrammes par litre, et granulométrie en millimètres et en pourcentage du sable, du limon et de l'argile.

5. Le tableau de la *granulométrie des sédiments charriés* (The table of Bed Load Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage en millimètres des particules pour chaque échantillon recueilli du charriage.

6. Le tableau de la *granulométrie des matériaux du lit* (The table of Bed Material Particle-size) comprend: la date et l'heure de prélèvement de l'échantillon, le débit de la tranche de la section, la verticale d'échantillonnage et le type d'échantillonneur employé et le pourcentage en millimètres des particules pour chaque échantillon recueilli.

7. Le tableau du *sommaire chronologique des données sur les sédiments* (The table of Historical Sediment Data Summary) donne, pour la période pour laquelle les données sont disponibles, les renseignements suivants lorsque de telles données existent:

   (a) Le sommaire du relevé
   (b) Le type d'échantillonnage
   (c) Les concentrations mesurées, maximum et minimum
   (d) Le débit des sédiments en suspension, maximum quotidien et le total pour la période en tonnes
   (e) Résumé, comprend le débit moyen, le débit moyen chronologique et l'erreur type de la moyenne en pourcentage.

(a) Le *sommaire du relevé* donne les mois de relevé pour lesquels les données sont disponibles. Le symbole (C) indique que les données sont disponibles pour tout le mois. Le symbole (P) indique que ces données ne sont disponibles que pour une partie du mois. Enfin, on indique par (-) les mois qui n'ont pas de données.

(b) Le *type d'échantillonnage* indique le type de méthode d'échantillonnage que l'on utilise dans le prélèvement des échantillons de sédiments pendant la période d'exploitation. Si le prélèvement des échantillons se fait par des méthodes manuelles, on indique «MANUEL». Si le prélèvement des échantillons se fait au moyen d'échantillonneur à pompe ou par quelque autre méthode automatique, on indique «AUTO». Si on utilise à la fois des méthodes d'échantillonnage manuelles et automatiques, on indique «DOUBLE».

(c) Pour les *concentrations mesurées* (Sampled Concentration), on donne la concentration maximale et la concentration minimale, en milligrammes par litre, et leur date d'obtention pour chaque année de relevé. La valeur extrême enregistrée est indiquée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure.

(d) Sous le *débit des sédiments en suspension* (Suspended Sediment Load), on donne le débit journalier maximal, en tonnes, et sa date de mesure. Le débit extrême enregistré est indiqué

the total load for the period or year, in tonnes. The extreme recorded is also indicated by an asterisk (*). If more than one maximum or minimum, of the same value, occurred during the year only the date of the first occurrence is identified by the asterisk. A load which has been revised since the previous publication is marked with the symbol (R) for Revision.

(e) The *Summary* gives the *Mean Load* and the *Historical Mean Load* in tonnes.

The *Standard Error of the Mean* % is calculated using the following equations:

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

and

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

where SEM is the Standard Error of the Mean.

- S is the Standard Deviation of the annual mean loads.
- x is the annual Mean Load variable.
- $\bar{x}$ is the Historical Mean Load or the arithmetic mean of the annual Mean Loads.
- n is the number of years for which there is an annual Mean Load.

For stations with only instantaneous samples, this table will not include the *Suspended Sediment Load* or the statistical information in the *Summary*.

DEFINITION OF TERMS

The following definitions are given to clarify the terms used in this publication:

Automatic pump sample is an individual water-sediment mixture pumped from a fixed point in a stream.

Bed load is that material moving in almost continuous contact with the streambed, being rolled or pushed along the bottom by the force of the water.

Bed material is the sediment mixture of which the streambed is composed.

Daily load is the suspended sediment load expressed in tonnes for a particular day. The daily load is obtained by multiplying the daily mean sediment concentration (mg/L) by the daily mean discharge (m^3/s) and the conversion factor, 0.0864.

Daily mean concentration is a time-weighted mean value and is computed from a manually constructed concentration curve. The mean concentration value may be determined arithmetically or graphically. The arithmetic mean is obtained either by (1) selecting values from the concentration graph that represents uniform intervals of time and taking the arithmetic average or by (2) selecting values from the graph that represent unequal intervals of time and weighing these values by the

par un astérisque (*). Le débit total pour la période ou pour l'année est indiqué. La valeur extrême est également signalée par un astérisque (*). Si la valeur du maximum ou du minimum a été mesurée plus d'une fois pendant l'année, on signale, par l'astérisque, seulement la date de la première mesure. La lettre R indique qu'une valeur du débit a été révisée depuis la dernière publication.

(e) Le *résumé* donne le *débit moyen* et le *débit moyen chronologique*, en tonnes.

L'*erreur-type de la moyenne* % (Standard Error of the Mean), est calculée à l'aide des équations suivantes.

$$SEM = \frac{S}{\bar{x}\sqrt{n}} \times 100\%$$

et

$$S = \sqrt{\frac{\Sigma (x - \bar{x})^2}{n - 1}}$$

où SEM est l'erreur type de la moyenne.

- S est l'écart type des débits moyens annuels.
- x est la variable du débit moyen annuel.
- $\bar{x}$ est le débit moyen chronologique ou la moyenne arithmétique des débits moyens annuels.
- n est le nombre d'années où il y a un débit moyen annuel.

Dans le cas des stations ne prélevant que des échantillons instantanés, ce tableau ne donnera pas le *débit des sédiments en suspension* ni les données statistiques du *résumé*.

DÉFINITION DES TERMES

Les définitions suivantes sont présentées afin de faciliter la compréhension des termes utilisés dans la présente publication:

Échantillonnage automatique à l'aide d'une pompe (Automatic pump sample): Prélèvement d'un mélange de sédiments et d'eau au moyen d'une pompe fonctionnant automatiquement, en un point précis d'un cours d'eau.

Charriage (Bed load): Matières roulées ou poussées sur le fond sous l'action de l'eau, mais restant en contact presque permanent avec le fond.

Matériau du lit (Bed material): Mélange de sédiments composant le lit d'un cours d'eau.

Débit journalier des sédiments en suspension (Daily load): Débit des sédiments en suspension exprimé en tonnes par jour, pour une journée donnée. On l'obtient en multipliant la concentration journalière moyenne des sédiments (mg/L) par le débit journalier moyen de l'eau (m^3/s) et le facteur de conversion 0.0864.

Concentration journalière moyenne (Daily mean concentration): Moyenne pondérée en fonction du temps, calculée à partir d'une courbe de la concentration établie manuellement. La valeur de la concentration moyenne peut être déterminée arithmétiquement ou graphiquement. Pour la déterminer arithmétiquement, on peut, soit choisir sur la courbe des valeurs représentant des intervalles uniformes de temps et faire la moyenne arithmétique, soit choisir sur cette courbe

time intervals represented by the concentrations. For graphical explanation refer to *Office Procedures for Sediment Data Computations* and for the automated graphical explanation refer to *Automated Hydrometric Computation Procedures*.

Depth-integrated sediment sample is a suspended sediment sample collected at a single vertical in a cross section in a sampler moving vertically at a constant transit rate and represents an average sample for that part of the depth ranging from the water surface to about nine centimetres above the streambed.

Instantaneous suspended sediment sample is a sample collected at a fixed vertical in a river cross section.

Measured suspended sediment discharge is the suspended sediment discharge that can be computed from stream discharge and the concentration of sediment determined from depth-integrated sediment samples.

Particle-size analysis is the process of determining the size distribution of particles in a sediment sample.

Point-integrated sediment sample is a sample of the water-sediment mixture taken over a specified period of time at a fixed point and depth in a river cross section.

Sediment is fragmental material which has been deposited, eroded or transported by a flowing stream.

Sediment hydrograph is a graph showing the variation of suspended sediment concentration or sediment discharge with respect to time.

Single sample is a sample taken at a selected permanent vertical in a cross section. Two bottles of water-sediment mixture make up each single sample.

Single sampling vertical is a selected permanent vertical in a cross section in which single suspended sediment samples are collected.

Suspended sediment is sediment that moves in suspension in water either as a colloid or through the influence of the upward component of turbulent currents.

Suspended sediment concentration is the ratio of the weight of dry solids in a water-sediment mixture to the volume of the mixture. The units of this ratio are "milligrams per litre" (mg/L).

Suspended sediment load is the quantity of suspended sediment transported through a cross section per unit of time.

des valeurs qui représentent des intervalles inégaux de temps et pondérer ces valeurs en fonction des intervalles de temps correspondants. En ce qui concerne les méthodes graphiques, consulter *Méthodes de bureau pour les calculs de données sur les sédiments* et, pour la méthode automatisée, *Automated Hydrometric Computation Procedures*.

Échantillon intégré sur toute la profondeur (Depth integrated sediment sample): Échantillon des sédiments en suspension prélevé sur une verticale précise d'une section transversale d'un cours d'eau à l'aide d'un échantillonneur se déplaçant verticalement à une vitesse constante; il représente un échantillon moyen des matières en suspension entre la surface de l'eau et environ 9 cm du fond.

Échantillon instantané de sédiments en suspension (Instantaneous suspended sediment sample): Échantillon prélevé à une verticale précise d'une section transversale d'un cours d'eau.

Débit mesuré des sédiments en suspension (Measured suspended sediment discharge): Débit des sédiments en suspension qui peut être calculé à partir du débit du cours d'eau et de la concentration des sédiments déterminée à partir d'échantillons intégrés sur toute la profondeur.

Analyse granulométrique (Particle-size analysis): Détermination de la répartition de la taille des particules dans un échantillon de sédiments.

Échantillon ponctuel et intégré (Point-integrated sediment sample): Échantillon constitué d'un mélange d'eau et de sédiments, prélevé au cours d'une période de temps donnée en un point précis d'une section transversale d'un cours d'eau et à une profondeur donnée.

Sédiments (Sediment): Matières fragmentaires qui ont été déposées, érodées ou transportées par un cours d'eau.

Hydrogramme des sédiments (Sediment hydrograph): Graphique représentant la variation de la concentration des sédiments en suspension ou du débit des sédiments en fonction du temps.

Échantillon unique (Single sample): Échantillon prélevé sur une verticale permanente particulière dans une section transversale. Deux bouteilles du mélange eau-sédiments constituent un seul échantillon.

Verticale d'échantillonnage unique (Single sampling vertical): Verticale permanente d'une section transversale où des échantillons uniques de sédiments en suspension sont prélevés.

Sédiments en suspension (Suspended sediment): Matériaux qui se déplacent au sein de l'eau, soit sous forme colloïdale, soit sous l'influence des forces ascendantes des courants turbulents.

Concentration des sédiments en suspension (Suspended sediment concentration): Rapport entre le poids des matières solides sèches contenues dans un mélange eau-sédiments et le volume du mélange. Les unités employées sont les «milligrammes par litre» (mg/L).

Débit des sédiments en suspension (Suspended sediment load): Quantité de sédiments en suspension transportés par unité de temps à travers une section transversale d'un cours d'eau.

Total sediment load is the sum of the suspended sediment load and the bed load.

Unmeasured sediment load is the difference between total sediment load and measured suspended sediment load.

DEFINITION OF SYMBOLS

Symbols are located at the bottom of the data sets under the headings Time, Discharge, Concentration, and Dissolved Solids. The symbols with their definitions are listed below.

Time Symbol

E – *Estimated* – indicates estimated data. It indicates that the time of sample collection is estimated by some indirect method or comparison with other stream data.

Discharge Symbol(s)

A – *Manual Gauge* – indicates that one or more manual gauge observations per day were obtained and used as the mean for the day for a gauging station equipped with a recording gauge. This symbol is used during open-water periods only.

B – *Ice Conditions* – indicates the presence of ice at the gauging station. For gauging stations where discharge data are obtained, this symbol indicates that the presence of ice has affected the stage-discharge relationship.

E – *Estimated* – indicates estimated data. It indicates that the values recorded are estimated by some indirect method such as interpolation, extrapolation, comparison with other streams or by comparison with meteorological data.

H – *Daily Mean Discharge* – is the mean discharge for a particular day, usually referred to as the "daily mean discharge".

V – *Daily Mean; Manual Gauge* – is the mean discharge for a particular day and indicates that one or more manual gauge observations per day were obtained and used as the mean for the day.

W – *Daily Mean; Ice Conditions* – is the mean discharge for a particular day and indicates that the presence of ice has affected the stage-discharge relationship.

Y – *Daily Mean; Estimated* – is the mean discharge for a particular day and indicates that the value has been estimated by some indirect method.

Concentration Symbol(s)

C – *Coarse Material Present* – indicates that during the laboratory analysis coarse material (sand) was observed in the sediment sample.

Débit total des sédiments (Total sediment load): Somme du débit des sédiments en suspension et du débit charrié.

Débit non mesuré des sédiments (Unmeasured sediment load): Différence entre le débit total des sédiments et le débit mesuré des sédiments en suspension.

DÉFINITION DES SYMBOLES

Les symboles figurent au bas des séries de données et sont traités sous les rubriques Temps, Débit, Concentration, Matières solides en solution. Ces symboles avec leurs définitions sont donnés dans la liste ci-après.

Symbole du temps :

E – *Estimative* – Indique des données estimatives, c'est-à-dire que l'heure de prélèvement de l'échantillon est évaluée de façon indirecte ou par comparaison avec d'autres données sur les cours d'eau.

Symbole(s) du débit :

A – *Turbidisonde simple* – Indique qu'on a effectué à une station de jaugeage dotée d'une turbidisonde enregistreuse au moins une observation par jour à l'aide d'une turbidisonde simple et qu'on s'en est servi comme moyenne pour la journée en question. Le symbole n'est employé qu'au cours des périodes d'eau libre.

B – *Glaces* – Indique la présence de glaces à la station de jaugeage, qui ont faussé la relation hauteur-débit.

E – *Estimative* – Indique des données estimatives, c'est-à-dire que les valeurs enregistrées sont évaluées de façon indirecte, par exemple par interpolation, extrapolation, ou par comparaison avec d'autres cours d'eau ou avec des données météorologiques.

H – *Débit journalier moyen* – Débit moyen pour une journée donnée, ordinairement appelé «débit journalier moyen».

V – *Débit journalier moyen; turbidisonde simple* – Débit moyen pour une journée donnée; indique qu'on a effectué au moins une observation par jour et qu'on s'en est servi comme moyenne pour la journée en question.

W – *Débit journalier moyen; glaces* – Débit moyen pour une journée donnée; indique que la présence de glaces a faussé la relation hauteur-débit.

Y – *Débit journalier moyen; estimative* – Débit moyen pour une journée donnée; indique que la valeur a été évaluée de façon indirecte.

Symbole(s) de la concentration :

C – *Sable grossier présent* – Indique qu'au cours de l'analyse en laboratoire on a observé du sable grossier dans un échantillon de sédiments.

F – Sample Bottle Filled – indicates that during the laboratory analysis it was observed that the sample bottle had been filled to capacity.

G – Organic Material Present – indicates that during the laboratory analysis it was observed that organic material was collected in the sample bottle.

Single Vertical Symbol(s)

K – Sampling vertical not at the regular single vertical from LEFT bank – indicates that a sample was collected at a location from the left bank, in a cross-section, which is not at the regular single vertical.

L – Sediment measurement vertical not at the regular measurement cross-section from LEFT bank – indicates that the measurement sampling verticals were established from the left bank, in a cross-section which is not the regular measurement cross-section.

M – Sediment measurement vertical – indicates that the sampling vertical is one of several, usually five, and represents a panel width. The instantaneous discharge represents the flow for a panel width.

X – Sampling vertical not at the regular single vertical – indicates that a sample was collected at a location, in a cross-section, which is not at the regular single vertical. The location of the regular single vertical is given at the bottom of the Instantaneous Suspended Sediment data.

Z – Sediment measurement vertical not at the regular measurement cross-section – indicates that a suspended sediment measurement was collected in a cross-section which is not the regular measurement corss-section.

Note: If no symbol is present the samples have then been collected at the regular Single Vertical.

MICROFICHE

Sediment data to 1983 are available on microfiche, upon request. The data are stored in station number order by province. There are 270 frames per microfiche at 48X reduction; there is a visible heading showing the fiche number, type of data, province, beginning and ending station number and year of data, and the month/year the fiche was created. The last frame is an index of the contents of that fiche.

F – Flacon d'échantillonnage rempli – Indique qu'au cours de l'analyse en laboratoire on a observé que le flacon d'échantillonnage avait été complètement rempli.

G – Substance organique présente – Indique qu'au cours de l'analyse en laboratoire on a observé qu'une substance organique a été prélevée dans le flacon d'échantillonnage.

Symbole(s) de la verticale unique :

K – Verticale d'échantillonnage à l'extérieur de la verticale unique habituelle à partir de la rive GAUCHE – Indique qu'un échantillon a été prélevé à un endroit à partir de la rive gauche, dans une section transversale, mais à l'extérieur de la verticale unique habituelle.

L – Verticale de mesure des sédiments, à l'extérieur de la section transversale de mesure habituelle à partir de la rive GAUCHE – Indique que les verticales de mesure d'échantillonnage ont été établies à partir de la rive gauche, dans un section transversale à l'extérieur de la section transversale de mesure habituelle.

M – Verticale de mesure des sédiments – Indique que la verticale d'échantillonnage est l'une de plusieurs verticales, en général cinq, et qu'elle représente la dimension d'une tranche. Le débit instantané représente le débit relatif à la dimension d'une tranche.

X – Verticale d'échantillonnage à l'extérieur de la verticale unique habituelle – Indique qu'un échantillon a été prélevé à un endroit, dans une section transversale, mais à l'extérieur de la verticale unique habituelle. L'endroit de la verticale unique habituelle est donné à la fin des données sur les sédiments en suspension instantanés.

Z – Verticale de mesure des sédiments, à l'extérieur de la section transversale de mesure habituelle – Indique qu'une mesure de sédiments en suspension a été prise dans une section transversale à l'extérieur de la section transversale de mesure habituelle.

Note : S'il n'y a pas de symbole, cela indique que les échantillons ont été prélevés à la verticale unique habituelle.

MICROFICHE

Les données jusqu'à 1983 sur les sédiments sont disponibles sur microfiche. Ces données sont emmagasinées par ordre de numéro de station et par province. Chaque microfiche renferme 270 pages réduites de 48X. L'en-tête indique le numéro de la fiche, le genre de données, la province, le numéro de la première et de la dernière station, la première et la dernière année des données ainsi que le mois et l'année de création de la fiche. La dernière image donne l'index de la fiche.

EQUIVALENTS OF MEASURE

The following list of convenient equivalents of measure includes the relationship between imperial units and the International System of Units (SI).

1 inch equals 2.54 cm (centimetres)
1 foot equals 0.3048 m (metre)
1 statute mile equals 1.6093 km (kilometres)

1 cm (centimetre) equals 0.393 70 inch
1 m (metre) equals 3.2808 feet
1 km (kilometre) equals 0.621 37 mile

1 acre equals 43 560 square feet
1 acre equals 0.404 69 ha (hectare)
1 square mile equals 640 acres
1 square mile equals 2.5900 km^2 (square kilometres)
1 square mile equals 259.0 ha (hectares)

1 ha (hectare) equals 10 000 m^2 (square metres)
1 ha (hectare) equals 2.4710 acres
1 km^2 (square kilometre) equals 0.386 10 square mile

1 cubic foot equals 6.2288 imperial gallons
1 imperial gallon equals 4.546 09 L (litres)
1 imperial gallon equals 1.2010 U.S. gallons
1 U.S. gallon equals 0.133 68 cubic foot
1 cubic foot equals 0.028 317 m^3 (cubic metre)
1 m^3 (cubic metre) equals 35.315 cubic feet
1 dam^3 (cubic decametre) equals 1000 m^3 (cubic metres)
1 dam^3 (cubic decametre) equals 1 mm (millimetre) over 1 km^2 (square kilometre)

1 cubic foot per second for one day equals 1.9835 acre-feet
1 cubic foot per second for one day covers one square mile to a depth of 0.037 19 inch
1 acre-foot equals 1.2335 dam^3 (cubic decametres)
1 m^3/s (cubic metre per second) for one day equals 86.4 dam^3 (cubic decametre)
1 m^3/s (cubic metre per second) for one day covers one square kilometre to a depth of 0.0864 m (metre)

1 foot per second equals 0.6818 mile per hour
1 mile per hour equals 1.467 feet per second
1 m/s (metre per second) equals 3.6 km/h (kilometre per hour)
1 km/h (kilometre per hour) equals 0.2778 m/s (metre per second)

1 cubic foot per second equals 0.028 317 m^3/s (cubic metre per second)
1 m^3/s (cubic metre per second) equals 35.315 cubic feet per second

1 pound equals 0.453 59 kg (kilogram)
1 kg (kilogram) equals 2.2046 pounds

1 short ton (2000 pounds) equals 0.907 18 t (tonne)
1 t (tonne) equals 2204.6 pounds

degrees Celsius = 5/9 (degrees Fahrenheit - 32)
degrees Fahrenheit = 9/5 (degrees Celsius) + 32

ÉQUIVALENCES DES UNITÉS DE MESURE

Voici une liste des unités de mesure impériales et leurs équivalences dans le Système international d'unités (SI).

1 pouce vaut 2.54 cm (centimètres)
1 pied vaut 0.3048 m (mètre)
1 mille terrestre vaut 1.6093 km (kilomètre)

1 cm (centimètre) vaut 0.393 70 pouce
1 m (mètre) vaut 3.2808 pieds
1 km (kilomètre) vaut 0.621 37 mille

1 acre vaut 43 560 pieds carrés
1 acre vaut 0.404 69 ha (hectare)
1 mille carré vaut 640 acres
1 mille carré vaut 2.5900 km^2 (kilomètres carrés)
1 mille carré vaut 259.0 ha (hectares)

1 ha (hectare) vaut 10 000 m^2 (mètres carrés)
1 ha (hectare) vaut 2.4710 acres
1 km^2 (kilomètre carré) vaut 0.386 10 mille carré

1 pied cube vaut 6.2288 gallons impérials
1 gallon impérial vaut 4.546 09 L (litres)
1 gallon impérial vaut 1.2010 gallon américain
1 gallon américain vaut 0.133 68 pied cube
1 pied cube vaut 0.028 317 m^3 (mètre cube)
1 m^3 (mètre cube) vaut 35.315 pieds cubes
1 dam^3 (décamètre cube) vaut 1000 m^3 (mètres cubes)
1 dam^3 (décamètre cube) vaut 1 mm (millimètre) qui couvre 1 km^2 (kilomètre carré)

1 pied cube par seconde pendant un jour vaut 1.9835 acre-pied
1 pied cube par seconde pendant un jour couvre un volume d'un mille carré par 0.037 19 pouce
1 acre-pied vaut 1.2335 dam^3 (décamètre cube)
1 m^3/s (mètre cube par seconde) pour un jour vaut 86.4 dam^3 (décamètres cubes)
1 m^3/s (mètre cube par seconde) pour un jour couvre un kilomètre carré à une profondeur de 0.0864 m (mètre)

1 pied par seconde vaut 0.6818 mille par heure
1 mille par heure vaut 1.467 pied par seconde
1 m/s (mètre par seconde) vaut 3.6 km/h (kilomètres par heure)
1 km/h (kilomètre par heure) vaut 0.2778 m/s (mètre par seconde)

1 pied cube par seconde vaut 0.028 317 m^3/s (mètre cube par seconde)
1 m^3/s (mètre cube par seconde) vaut 35.315 pieds cubes par seconde

1 livre vaut 0.453 59 kg (kilogramme)
1 kg (kilogramme) vaut 2.2046 livres

1 tonne courte (2000 livres) vaut 0.907 18 t (tonne)
1 t (tonne) vaut 2204.6 livres

degrés Celsius = 5/9 (degrés Fahrenheit - 32)
degrés Fahrenheit = 9/5 (degrés Celsius) + 32

CO-OPERATION AND ACKNOWLEDGMENTS

Co-operative undertakings with other agencies form an important part of the activities of the Water Survey of Canada. Close co-operation has been maintained with public agencies and private organizations concerned with water resources. Data have been mutually exchanged and suspended sediment collection operations have been facilitated by the assistance received from a number of organizations.

On waters adjacent to the International Boundary, certain sediment stations are maintained by Canada (or the United States) under agreement with the United States (or Canada) and the records are collected and compiled in a manner equally acceptable to both countries. These stations are designated as "International Gauging Stations" in this publication.

For the valuable assistance and co-operation received in obtaining sediment survey records, the Water Survey of Canada is indebted to other federal and provincial organizations which are noted as contributing agencies in the summary for the year. A list of these agencies may be found in the *Sediment Data Reference Index*.

COOPÉRATION ET REMERCIEMENTS

Le travail entrepris en coopération avec d'autres organismes représente une partie importante des activités de la Division des relevés hydrologiques du Canada. On a maintenu une étroite collaboration avec les organismes, publics ou privés, qui s'intéressent aux ressources en eau. On a échangé des données sur les sédiments, et l'assistance fournie par certains organismes a facilité les opérations d'échantillonnage des sédiments en suspension.

Dans les eaux adjacentes à la frontière internationale, les stations dépendent du Canada ou des États-Unis selon l'accord intervenu entre les deux pays, et les relevés sont faits et compilés de façon à satisfaire les deux pays. Ces stations sont nommées «Stations internationales de jaugeage» dans la présente publication.

La Division des relevés hydrologiques du Canada est redevable à plusieurs organismes fédéraux et provinciaux, dont les noms apparaissent dans le sommaire de l'année, de l'aide et de la collaboration qu'ils lui ont apportées pour l'obtention des données sur les sédiments. On trouvera également les noms des organismes qui ont fourni des données dans l'*Index de référence des données sur les sédiments*.

REVISIONS

A number of corrections or revisions have been made to previously published data. Many of these were required because of typographical or computational errors which were exposed when the data were stored on magnetic tape and monthly means were re-calculated by computer. Other errors were discovered or different interpretations of basic data were made during the systematic review of historical streamflow data.

Revisions to daily discharges or sediment data are not published at present. However, those stations where a systematic review has been conducted are identified in the Surface Water Data Reference Index publication. The Historical Streamflow Summary publications contain revisions to monthly and annual mean discharges, and annual extremes of discharge. Revisions, corrections or additions made to discharges and sediment after January 1, 1980, are indicated by an "R" symbol in the data summaries. Detailed information on revisions to historical data is available from the appropriate Regional Chief.

RÉVISIONS

On a corrigé ou révisé des données déjà publiées. Il a été nécessaire d'effectuer plusieurs corrections, car on a relevé des erreurs typographiques ou de calcul lorsqu'on a enregistré les données sur rubans magnétiques et qu'on a recalculé les moyennes mensuelles à l'aide d'un ordinateur. On a aussi relevé d'autres erreurs ou fait des interprétations différentes de certaines données de base au cours de la révision systématique des données historiques sur le débit.

Les corrections apportées aux débits journaliers ou aux données sur les sédiments ne sont pas publiées, du moins pour le moment. Cependant, les stations où on a effectué une révision systématique sont indiquées dans l'*Index de référence des données sur les eaux de surface*. Les publications intitulées *Sommaire chronologique de l'écoulement* contiennent des données révisées sur les débits mensuels et annuels moyens et les extrêmes annuels du débit. Les révisions, corrections ou ajouts apportés aux données sur les débits et sur les sédiments après le 1er janvier 1980 sont indiqués par la lettre R dans les résumés des données. On peut obtenir plus de détails sur les révisions en s'adressant au chef régional concerné.

ABITIBI RIVER AT OHAKAWANA - STATION NO. 04HE003

LOCATION: LAT 50 38 00 N LONG 081 25 00 W
DRAINAGE AREA: 27 500 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 13	10:30		851	231	DH9	141	487														

NOTE : SINGLE VERTICAL LOCATED AT 231 METRES FOR 1988

ABITIBI RIVER AT OHAKAWANA - STATION NO. 04HE003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1978	------P-----	MANUAL	46	JUL 27	46	JUL 27	---	---	---	---	---	---
1983	----P--P-P--	MANUAL	120	MAY 16	4	AUG 04 *	---	---	---	---	---	---
1986	----P-P-----	MANUAL	81	MAY 7	49	JUL 9	---	---	---	---	---	---
1987	---P------P-	MANUAL	139	APR 30	84	NOV 11	---	---	---	---	---	---
1988	----P--P----	MANUAL	141	AUG 18 *	139	MAY 15	---	---	---	---	---	---
1989	----P-------	MANUAL	141	MAY 13	141	MAY 13	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ATTAWAPISKAT RIVER BELOW MUKETEI RIVER - STATION NO. 04FC001

LOCATION: LAT 53 05 30 N LONG 085 00 30 W
DRAINAGE AREA: 30 000 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 13	09:20	12.0	930	200	DH9	52	956														
JUL 18	17:20	21.0	370	200	DIP	72	1500														
SEP 19	13:30	10.0	261	200	DIP	3	2030														

NOTE : SINGLE VERTICAL LOCATED AT 200 METRES FOR 1988

ONTARIO

ATTAWAPISKAT RIVER BELOW MUKETEI RIVER - STATION NO. 04FC001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1975	----PPPP----	MANUAL	20 JUL 05		7 AUG 23		---	---	---	---	---	---
1976	----P-------	MANUAL	11 MAY 30		11 MAY 30		---	---	---	---	---	---
1977	-----P------	MANUAL	10 JUN 04		10 JUN 04		---	---	---	---	---	---
1980	--------P----	MANUAL	80 AUG 13		80 AUG 13		---	---	---	---	---	---
1981	---------P---	MANUAL	70 SEP 30		70 SEP 30		---	---	---	---	---	---
1982	----P----P--	MANUAL	69 MAY 17		7 OCT 18		---	---	---	---	---	---
1983	----P--P-P--	MANUAL	31 OCT 27		1 AUG 06	*	---	---	---	---	---	---
1985	--------P----	MANUAL	61 AUG 20		61 AUG 20		---	---	---	---	---	---
1986	--------P----	MANUAL	52 AUG 8		52 AUG 8		---	---	---	---	---	---
1987	----P---P---	MANUAL	68 SEP 30		70 MAY 28		---	---	---	---	---	---
1988	----P-P-----	MANUAL	63 JUL 20		54 MAY 12		---	---	---	---	---	---
1989	----P-P-P---	MANUAL	52 MAY 13	*	2 SEP 19		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ONTARIO

AUSABLE RIVER NEAR SPRINGBANK - STATION NO. 02FF002

SUSPENDED SEDIMENT FOR 1989

LOCATION: LAT 43 04 20 N LONG 81 39 35 W
DRAINAGE AREA: 985 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 15 800 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS:OPEN WATER SAMPLING ONLY

	JAN			FEB			MAR			
DAY	DAILY DISCHARGE (m³/s)	MEAN CON-CENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CON-CENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CON-CENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	18.7 A	40	84.8	30.7	188	448	1.18 B	18	1.80	1
2	13.3 A	40	48.0	29.4	122	310	1.16 B	17	1.88	2
3	8.20 B	40	31.8	18.7 A	80	102	1.14 B	18	1.48	3
4	8.50 B	40	22.5	18.4 B	31	41.2	1.13 B	11	1.07	4
5	8.60 B	40	30.0	11.8 B	21	21.0	2.18 B	34	8.40	5
6	8.10 B	40	17.8	8.40 B	18	11.8	3.78 B	48	15.8	6
7	4.80 B	40	18.8	7.00 B	18	8.88	3.88 B	24	7.87	7
8	17.2 B	80	74.3	8.80 B	17	8.23	3.88 B	20	8.10	8
9	33.0 B	80	171	4.88 B	17	8.88	3.40 B	19	3.84	9
10	26.0 B	80	112	3.80 B	18	8.40	3.00 B	21	8.44	10
11	21.0 B	40	72.8	3.80 B	20	8.08	5.80 B	28	14.0	11
12	13.8 B	40	48.7	3.00 B	18	8.82	8.00 B	43	33.4	12
13	10.8 B	40	38.3	2.38 B	21	8.28	7.70 B	41	27.3	13
14	8.20 B	40	31.8	2.08 B	21	8.72	8.40 B	42	33.2	14
15	7.70 B	40	28.8	2.20 B	23	8.37	12.8 B	80	84.0	15
16	8.30 B	40	21.8	2.33 B	27	8.44	32.0 B	87	108	16
17	4.80 B	40	18.8	2.18 B	28	8.80	17.7	138 S	198	17
18	3.80 B	40	12.4	1.87 B	25	8.28	27.8	218	788	18
19	4.80 B	40	18.8	1.78 B	23	8.84	38.3	131	433	19
20	3.88 B	40	13.7	1.83 B	22	8.48	25.8	101	228	20
21	3.40 B	38	10.3	1.70 B	22	8.23	17.8	83	77.8	21
22	3.08 B	38	8.22	1.83 B	21	8.78	12.7	87	38.8	22
23	3.40 B	38	10.3	1.40 B	21	8.84	11.7	30	20.2	23
24	3.80 B	38	11.8	1.28 B	21	8.28	18.2	74	104	24
25	4.38 B	38	13.2	1.28 B	21	8.34	24.3	132 S	277	25
26	8.18 B	38	24.8	1.32 B	18	8.17	32.2	234	881	26
27	17.0 B	48	70.5	1.38 B	18	8.32	32.3	114	318	27
28	13.8 B	34	40.0	1.38 B	20	8.18	32.1	101 S	280	28
29	13.1 B	34	37.2				43.4	187	838	29
30	18.8 B	118	200				42.7 A	188 S	388	30
31	26.0 B	78	181				38.4 A	83	190	31
TOTAL	341.80		1 477.82	170.84		1 027.48	488.11		4 838.89	TOTAL

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CON-CENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CON-CENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CON-CENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	30.2	48 S	78.8	3.34	43	12.4	3.87	83	17.7	1
2	15.8	31	40.2	3.04	42 S	11.8	8.84	188	83.8	2
3	14.8	83 S	78.8	2.80	41	8.82	12.4	117 S	138	3
4	38.2	287	878	2.63	37	8.14	8.43	48	37.4	4
5	33.1	100 S	288	2.58	31	4.88	8.71	38	18.2	5
6	30.7	83 S	220	2.88	30	8.87	8.38	18	8.82	6
7	24.4	80	138	2.72	41	8.84	4.17	20	7.31	7
8	18.1	82 S	81.2	2.78	44 S	10.8	2.88	17	4.38	8
9	14.0	40	48.4	2.88	38	8.03	2.73	88 S	18.3	9
10	11.3	30 S	29.3	2.81	31	8.72	3.40 E	188	48.4	10
11	8.88	24	20.8	2.38	28	8.08	3.10 E	87	23.3	11
12	8.80	83 S	40.8	2.33	27	8.20	2.80 E	48	11.8	12
13	11.8	134	138	2.48	41	8.80	2.88 E	32	7.08	13
14	28.2	83 S	202	2.38	38 S	7.72	2.48 E	27	8.72	14
15	28.8	178	408	2.33	38	7.08	8.10 E	33	10.1	15
16	38.4	127 S	381	2.24	38	8.77	8.40 E	88 S	47.0	16
17	18.0	82	181	2.18	38	8.80	4.80 E	184	88.8	17
18	17.7	80 S	81.8	1.98	30	8.08	4.20 E	103	37.4	18
19	14.8	80	83.8	1.87	28	4.20	3.80 E	87	22.0	18
20	13.1	82	84.4	1.88	32	8.82	3.47	43	13.8	20
21	10.2	78 S	88.8	2.28	78	14.8	3.28	38	10.8	21
22	8.13	88	47.8	2.37	78 S	18.2	4.12	108 S	37.7	22
23	8.28	80	32.8	2.08	61	8.31	3.87	104	34.8	23
24	8.81	83 S	38.7	1.88	44	7.48	4.40 A	88	37.8	24
25	8.18	48	21.8	1.77	48	7.03	7.08 A	237	148	25
26	4.71	48	18.3	8.88	337 S	114	8.81 A	188	88.8	28
27	4.37	37	14.0	7.83	348 S	178	3.80 E	188	48.2	27
28	4.08	32	11.1	3.88	87	33.1	2.28 A	128 S	25.8	28
29	3.88	33 S	10.2	2.80	80	12.1	1.84	118	18.3	29
30	3.84	47	14.8	2.38	32	8.33	1.34	111	12.8	30
31				2.88	28	8.72				31
TOTAL	437.88		3 388.0	85.03		843.88	133.38		1 087.88	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

ONTARIO

AUSABLE RIVER NEAR SPRINGBANK - STATION NO. 02FF002

SUSPENDED SEDIMENT FOR 1989

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	1.12	110 S	10.8	0.315	88	2.87	0.272	78	1.88	1
2	0.972	110	9.24	0.290	88	2.46	0.258	71	1.67	2
3	0.849	111	8.14	0.281	101	2.45	0.267	72	1.88	3
4	0.772	108	7.27	0.274	101	2.45	0.249	86	1.42	4
5	0.718	109	6.78	0.268	101	2.49	0.211	82	1.13	5
6	0.647	108	6.04	0.280	100	2.42	0.202	89	1.03	6
7	0.587	106	5.38	0.271	101	2.38	0.224	88	1.12	7
8	0.548	106	5.00	0.268	101 S	2.34	0.231	80 S	1.20	8
9	0.500	106 S	4.58	0.275	102	2.42	0.300	70	1.81	9
10	0.480	106	4.31	0.888	184	9.28	0.883	182	13.1	10
11	0.430	107	3.98	0.812	188	14.8	0.678	127	8.98	11
12	0.417	104	3.76	0.588	144	7.08	0.482	82	3.48	12
13	0.386	100	3.36	0.426	124	4.89	0.382	70	2.18	13
14	0.370	97	3.10	0.387	108	3.46	0.318	70	1.93	14
15	0.361	88	2.88	0.380	105	3.45	0.308	71 S	1.89	15
16	0.408	100	3.83	0.438	115	4.36	0.308	72	1.92	16
17	0.381	88 S	2.74	0.533	127	5.85	0.317	71	1.94	17
18	0.318	78	2.17	0.445	126	4.84	0.380	63	2.60	18
19	0.318	81	2.23	0.327	111	3.14	0.408	67	3.07	19
20	0.482	109	4.84	0.313	102	2.78	0.383	88	2.18	20
21	0.872	118	8.83	0.308	101	2.70	0.331	63	1.78	21
22	0.803	111	4.82	0.328	111	3.15	0.437	88	2.48	22
23	0.486	106	4.43	0.326	118 S	3.32	2.80	187	46.9	23
24	0.811	101 S	4.48	0.303	108	2.85	4.84	178	70.6	24
25	0.448	93	3.80	0.278	97	2.34	3.80	78 S	23.0	25
26	0.872	124	6.13	0.264	88	1.83	1.88	38	5.45	26
27	0.847	140	7.83	0.238	81	1.67	1.01	37	3.23	27
28	0.822	118	6.18	0.221	78	1.48	0.888	37	3.20	28
29	0.484	107	4.20	0.244	78	1.80	0.548	34	1.81	29
30	0.401	100	3.46	0.287	82 S	1.82	0.458	38 S	1.80	30
31	0.367	87 S	2.81	0.277	81	1.84				31
TOTAL	18.489		152.46	10.988		110.44	23.323		214.83	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	0.368	40	1.33	0.888	81 S	3.18	12.8	33	34.8	1
2	0.357	38	1.30	0.885	88	2.84	8.70	24	20.1	2
3	0.348	38	1.18	0.837	43	2.37	7.70 S	21	14.0	3
4	0.338	40	1.18	0.872	28	1.63	8.40 S	20	9.33	4
5	0.308	40	1.07	0.761	19	1.32	4.40 S	20	7.80	5
6	0.288	37	0.83	0.842	28 S	2.03	3.78 S	20	5.48	6
7	0.283	30	0.72	1.37	80	5.82	3.30 S	20	5.70	7
8	0.331	33	0.84	6.37	187	77.8	2.80 S	20	5.01	8
9	0.383	32	0.88	8.88	178	88.8	2.85 S	20	4.88	9
10	0.480	34	1.38	4.88	114	50.8	2.78 S	20	4.78	10
11	5.31	78 S	35.8	3.88	78	23.3	2.88 S	20	4.41	11
12	4.78	38	10.3	2.80	48	11.8	2.38 S	20	4.08	12
13	2.81	17	4.13	2.18	30	5.48	2.18 S	20	3.77	13
14	1.78	16	2.38	1.81	25 S	4.13	2.00 S	20	3.48	14
15	1.38	17	2.00	11.3	188	188	1.88 S	20	3.38	15
16	1.07	18	1.88	88.7	198	1 180	1.77 S	20	3.08	16
17	0.840	18	1.48	86.3	63 S	317	1.88 S	20	2.87	17
18	0.833	17	1.32	31.0	38	88.4	1.88 S	20	2.88	18
19	0.788	21 S	1.44	20.8	29	52.4	1.48 S	20	2.88	19
20	0.774	20	1.34	14.8	26	31.8	1.42 S	20	2.48	20
21	0.788	24	1.83	13.4	52	80.2	1.38 S	20	2.38	21
22	0.847	88	4.88	12.8	48	48.0	1.30 S	20	2.28	22
23	0.807	83	8.80	10.8	30	27.8	1.28 S	20	2.18	23
24	0.881	70	5.31	8.18	21	16.7	1.21 S	20	2.08	24
25	0.818	87 S	4.72	7.74	20	13.4	1.18 S	20	2.00	25
26	0.828	74	8.28	7.88	80	38.1	1.12 S	20	1.84	26
27	0.748	71	4.87	5.88	70 S	82.4	1.10 S	20	1.80	27
28	0.787	75	4.81	18.2	88	133	1.13 S	20	1.88	28
29	0.784	73	4.44	24.1	111	231	1.15 S	20	1.88	29
30	0.728	81	5.07	18.8	82	85.7	1.17 S	20	2.02	30
31	0.828	83	3.42				1.48 S		2.42	31
TOTAL	32.838		122.83	384.887		2 821.38	87.34		187.88	TOTAL

S - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

AUSABLE RIVER NEAR SPRINGBANK - STATION NO. 02FF002

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 17	15:30	2.0	17.2	12.0	DH59	186	306														
MAR 28	14:30	8.0	28.4	12.0	DH59	111															
MAR 28	15:4(	15.0	32.3	12.0	DH59	88															
MAR 30	13:30	2.0	41.9	12.0	DH59	93															
APR 01	13:10	2.0	18.7	12.0	DH59	46															
APR 03	13:10		13.0	12.0	DH59	85															
APR 05	10:45	5.0	33.5	12.0	DH59	92															
APR 06	17:00		30.9	12.0	DH59	78															
APR 08	14:20		17.7	12.0	DH59	61															
APR 10	11:50		11.2	12.0	DH59	31															
APR 12	10:00		8.98	12.0	DH59	85															
APR 14	18:30		27.4	12.0	DH59	98	417														
APR 16	16:40		33.8	12.0	DH59	126															
APR 18	13:00		14.7	12.0	DH59	56															
APR 21	11:00		10.4	12.0	DH59	53															
APR 24	11:40		5.57	12.0	DH59	53															
APR 28	10:00		3.85	12.0	DH59	29															
MAY 02	12:45		3.04	12.0	DH59	40															
MAY 04	16:15		2.68	12.0	DH59	43															
MAY 14	16:45	14.0	2.34	12.0	DH59	37															
MAY 22	08:15		2.58	12.0	DH59	88	389														
MAY 26	08:10		2.02	12.0	DH59	84															
MAY 27	10:30	20.0	8.49	12.0	DH59	282	386														
JUN 03	14:15	22.0	5.38	12.0	DH59	85															
JUN 06	18:10	24.0	3.58	12.0	DH59	88															
JUN 16	14:00	21.0	3.64	12.0	DH59	101															
JUN 22	14:10	26.0	4.58	12.0	DH59	119															
JUN 26	11:30	25.0	2.28	12.0	DH59	128															
JUL 01	13:55	27.0	0.888	12.0	DH59	110															
JUL 06	14:15	30.0	0.478	12.0	DH59	108															
JUL 17	15:45	28.0	0.337	12.0	DH59	85															
JUL 24	14:30	32.0	0.456	12.0	DH59	101															
JUL 31	15:00	28.0	0.367	12.0	DH59	97	313														
AUG 08	15:30	22.0	0.357	12.0	DH59	101															
AUG 23	15:40	24.0	0.374	12.0	DH59	118															
AUG 30	15:00	26.0	0.357	12.0	DH59	80															
SEP 06	13:45	26.0	0.350	12.0	DH59	88	280														
SEP 15	11:20	18.0	0.374	12.0	DH59	70															
SEP 25	11:10	16.0	3.76	12.0	DH59	87															
SEP 30	15:30	18.0	0.565	12.0	DH59	36															
OCT 11	11:05	14.0	4.00	12.0	DH59	75	386														
OCT 19	08:50	10.0	0.915	12.0	DH59	31															
OCT 25	15:00	15.0	0.580	12.0	DH59	88															
NOV 01	15:05	12.0	0.705	12.0	DH59	80															
NOV 06	11:00	8.0	0.807	12.0	DH59	22															
NOV 14	15:00	12.0	1.88	12.0	DH59	28															
NOV 17	12:00		57.8	12.0	DH59	57															
NOV 27	15:00	5.0	5.82	12.0	DH59	57															

NOTE : SINGLE VERTICAL LOCATED AT 12 METRES FOR 1989

AUSABLE RIVER NEAR SPRINGBANK - STATION NO. 02FF002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1970	CCCCCCCCCCCC	MANUAL	988	MAY 18	11	JAN 27	4 830	MAY 18	35 200	98.3	98.3	---
1971	PPPCCCCCCCCC	MANUAL	235	AUG 27	18	DEC 21	887	APR 03	7 480	---	---	---
1972	CCCCCCCCCCCC	MANUAL	827	APR 17	20	FEB 22	7 780	APR 17	41 000	112	104	7.8
1973	CCCCCCCCCCCC	MANUAL	985	MAR 11	16	NOV 10	7 870	JAN 01	85 800	180	129	19.8
1974	CCCCCCCCCCCC	MANUAL	1 230	APR 04	12	DEC 20	15 200	MAR 05	93 600 *	288	181	22.7
1975	CCCCCCCCCCCC	MANUAL	1 480	APR 19	11	JAN 20	18 700	APR 19	75 200	208	170	17.4
1976	CCCCCCCCCCCC	MANUAL	804	JUL 10	22	DEC 06	6 230	MAR 06	85 500	178	172	14.1
1977	CCCCCCCCCCCC	MANUAL	848	JUN 28	43	MAR 23	6 800	MAR 13	85 800	178	173	11.8
1978	CCCCCCCCCCCC	MANUAL	414	APR 11	31	MAR 28	4 150	APR 02	39 400	108	168	11.8
1979	CCCCCCCCCCCC	MANUAL	1 550	APR 14	24	DEC 28	33 200	APR 14 *	82 800	285	178	11.4
1980	CCCCCCCCCCCC	MANUAL	766	JUN 28	18	FEB 05	6 880	MAR 22	41 800	113	168	11.2
1981	CCCCCCCCCCCC	MANUAL	880	SEP 02	11	DEC 30	4 200	SEP 02	41 300	113	163	10.8
1982	CCCCCCCCCCCC	MANUAL	1 630	MAR 31 *	6	JAN 20	16 700	MAR 31	85 700	180	166	9.8
1983	CCCCCCCCCCCC	MANUAL	713	APR 10	7	JAN 09 *	3 850	MAY 03	29 800	81.3	156	10.3
1984	CCCCCCCCCCCC	MANUAL	770	MAR 18	7	JAN 27	4 330	MAR 17	42 800	117	166	9.8
1985	CCCCCCCCCCCC	MANUAL	903	SEP 6	6	JAN 24	3 940	FEB 28	45 200	124	163	9.6
1986	CCCCCCCCCCCC	MANUAL	1 170	JUN 12	6	JAN 11	3 480	SEP 12	32 200	143	163	8.6
1987	CCCCCCCCCCCC	MANUAL	247	MAR 8	17	MAR 17	4 130	MAR 09	37 000	101	150	8.7
1988	--CCCCCCCCC	MANUAL	333	MAY 30	19	NOV 1	2 850	MAR 25	25 400	---	---	---
1989	CCCCCCCCCCCC	MANUAL	383	MAY 27	21	OCT 19	1 180	NOV 18	16 900	43.7	144	9.8

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

BATCHAWANA RIVER NEAR BATCHAWANA - STATION NO. 02BF001

LOCATION: LAT 46 59 36 N LONG 084 31 31 W
DRAINAGE AREA: 1 190 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 26	14:10	20.0	13.8	10.6	DH48	52	720														
AUG 22	15:05	15.0	4.20	10.6	DH48	35	894														
NOV 08	09:08	4.0	2.34	10.6	DH48	5	1510														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

BATCHAWANA RIVER NEAR BATCHAWANA - STATION NO. 02BF001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	-----P-P--P-	MANUAL	52	JUN 26 *	5	NOV 8 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BEAR CREEK BELOW BRIGDEN - STATION NO. 02CG009

LOCATION: LAT 42 48 42 N LONG 082 17 54 W
DRAINAGE AREA: 533 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MARCH 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	09:40		13.7	24.0	DH59	107	368														

NOTE : SINGLE VERTICAL LOCATED AT 24 METRES FOR 1988

BEAR CREEK BELOW BRIGDEN - STATION NO. 02CG009

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1968	--PPPPP-PPP-	MANUAL	184	JUN 24	25	NOV 5 *	---	---	---	---	---	---
1987	--PPP-PPPPP-	MANUAL	233	APR 7 *	40	MAR 18	---	---	---	---	---	---
1988	---P-------P-	MANUAL	184	APR 12	174	NOV 18	---	---	---	---	---	---
1988	--P----------	MANUAL	107	MAR 28	107	MAR 28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BEAVER RIVER NEAR CLARKSBURG - STATION NO. 02FB009

LOCATION: LAT 44 31 30 N LONG 080 28 00 W
DRAINAGE AREA: 872 km²
TYPE OF FLOW: REGULATED SINCE 1918
TYPE OF GAUGE: RECORDING

REMARKS: STATION STARTED MAR 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 31	17:05	3.0	33.6	10.0	DH59	25	184														
APR 01	11:30	3.0	28.9	10.0	DH59	19	168														

NOTE : SINGLE VERTICAL LOCATED AT 10 METRES FOR 1988

BEAVER RIVER NEAR CLARKSBURG - STATION NO. 02FB009

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1987	--PPPPP-PPP-	MANUAL	38 NOV 30 *		4 MAR 17		---	---	---	---	---	---
1988	---P------P-	MANUAL	15 NOV 28		3 APR 26 *		---	---	---	---	---	---
1989	--PP--------	MANUAL	25 MAR 31		19 APR 1		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ONTARIO

BIG OTTER CREEK NEAR CALTON - STATION NO. 02EC026

SUSPENDED SEDIMENT FOR 1989

LOCATION: LAT 42 42 30 N LONG 80 50 20 W
DRAINAGE AREA: 676 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 35 100 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS:OPEN WATER SAMPLING ONLY

	JAN			FEB			MAR			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	10.5	132	120	11.8	84	84.1	3.76 B	11	3.58	1
2	8.32	107	76.8	11.4	67	48.3	3.76 B	11	3.67	2
3	7.13	88	54.2	8.89	32	24.5	3.76 B	11	3.58	3
4	6.80 B	86 E	52.5	8.35 B	22	11.5	3.74 B	11	3.55	4
5	6.85 B	93	55.0	5.70 B	21	10.3	7.80 B	20	13.7	5
6	8.80 B	85	80.5	5.25 B	20	9.07	8.84 B	15	8.68	6
7	11.0 B	75	71.3	5.04 B	18	8.27	4.54 B	13	5.10	7
8	20.3	100	175	4.83 B	18	7.67	4.30 B	11	4.09	8
9	21.8	100	188	4.77 B	17	7.01	4.17 B	10	3.80	9
10	18.7 B	83	130	4.54 B	17	6.62	4.05 B	10	3.50	10
11	14.4 B	78	98.3	4.58 B	18	6.30	5.34 B	13	6.00	11
12	13.1 B	74	83.6	4.48 B	18	6.19	6.63 B	30	17.2	12
13	13.5 B	70	81.6	4.40 B	15	5.70	8.88 B	80	35.6	13
14	10.0 B	87	87.9	4.80 B	15	6.22	9.10 B	64	28.5	14
15	8.41 B	84	82.0	5.50 B	15	7.13	5.80 B	50	24.2	15
16	8.85 B	81	47.2	4.80 B	14	5.81	5.32	45	20.7	16
17	8.36 B	86	42.0	4.50 B	14	5.44	5.15	37	16.5	17
18	7.95 B	85	38.5	4.20 B	14	5.08	11.2	120	116	18
19	7.70 B	84	35.8	4.10 B	13	4.81	15.6	105	142	19
20	7.05 B	82	31.7	4.00 B	13	4.49	14.7	87	72.4	20
21	6.75 B	81	29.7	3.89 B	13	4.37	12.1	33	34.5	21
22	6.50 B	80	28.1	4.70 B	13	5.26	9.23	18	15.2	22
23	6.30 B	45	28.1	4.60 B	12	4.77	7.72	17	11.3	23
24	6.10 B	47	24.8	4.30 B	12	4.46	9.62 E	38	33.1	24
25	5.92	46	23.5	4.10 B	12	4.25	12.7 E	37	40.8	25
26	8.97	72	62.0	4.05 B	11	3.85	14.8 E	37	47.5	26
27	11.5	88	87.4	3.98 B	11	3.78	15.1 E	33	30.0	27
28	9.27	74	59.3	3.85 B	11	3.85	15.3 E	80	84.5	28
29	7.21	47	29.3				22.4	1 010	1 950	29
30	6.26	29	20.7				23.4	832 S	1 380	30
31	10.5	44	38.8				20.5	407	721	31
TOTAL	305.06		1 973.1	147.28		267.44	283.50		4 780.02	TOTAL

	APR			MAY			JUN			
DAY	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m³/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	17.8	334 S	483	4.80	46	18.3	4.88	216	87.0	1
2	13.8	298	353	4.82	45	17.6	7.81	3 280 S	2 130	2
3	16.0	512	708	4.47	44	17.0	7.02	885	518	3
4	26.0	1 030	3 700	4.39	40 S	14.8	7.15	393	243	4
5	30.7	708 S	2 120	4.30 A	42	15.6	5.91	208	105	5
6	22.8	416	816	4.33 E	44	16.1	5.13	95	42.1	6
7	16.0	274	378	4.23 E	39	14.3	4.85	66	26.7	7
8	13.3	220 S	243	4.41 E	38	13.7	4.13	73	26.0	8
9	10.2	218	188	4.32 E	33	12.3	3.80	72	24.3	9
10	9.04	169	132	4.31 E	31	11.3	3.80	66	22.3	10
11	8.31	141 S	101	4.26 E	33	12.1	3.87	85	20.6	11
12	7.88	152	105	4.81 E	45	17.8	3.82	83	19.2	12
13	9.26	213	170	4.86 E	80	26.3	3.83	176	58.4	13
14	9.83	230	184	4.83 E	73	31.1	3.77	127	41.4	14
15	10.8	313 S	293	4.70 E	48	18.9	3.88	116	38.7	15
16	12.8	394	438	4.30 A	34	12.8	3.78	106	34.7	16
17	11.8	308	309	4.18	33	11.9	3.88	107 S	35.6	17
18	14.8	605 S	837	3.95	28	9.58	4.04	81	28.3	18
19	14.0	370	337	3.80	24	7.86	3.78	71	23.2	19
20	11.8	182	182	3.81	33	10.9	3.83	87	22.7	20
21	8.41	93	75.8	3.87	42	14.4	4.01	82	21.8	21
22	7.88	70	48.4	3.88	28	8.84	6.22	812 S	438	22
23	8.77	87	39.2	3.83	39	12.8	8.21	384	180	23
24	8.87	84	33.8	3.87	86 S	19.8	6.18	271	148	24
25	8.70	83 S	31.0	3.88	87	19.0	6.11	185	72.8	25
26	8.83	88	31.8	4.70	171	69.4	4.27	128	46.1	26
27	8.47	88	31.2	4.85	124	49.8	3.83	83	31.8	27
28	8.33	80 S	27.1	4.34	88	33.4	3.75	88	27.7	28
29	4.86	87	24.4	3.84	75	26.8	3.40	84	18.8	29
30	4.78	84	22.3	4.80	812 S	354	3.16	88 S	18.8	30
31				4.82	305 S	132				31
TOTAL	348.69		12 218.3	133.45		836.88	135.04		4 888.3	TOTAL

A - MANUAL GAUGE B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

BIG OTTER CREEK NEAR CALTON - STATION NO. 02EC026

SUSPENDED SEDIMENT FOR 1989

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	2.08	65	10.5	1.63	30	4.22	2.10	43	8.10	1
2	2.62	58	14.1	1.43	25	3.09	2.48	305	82.0	2
3	2.72	51	12.0	1.38	24	2.82	2.38	65	13.4	3
4	2.78	47	11.3	1.60	20 S	3.78	1.88	43	7.39	4
5	2.83	84	13.2	1.68	47	7.81	1.88	35	5.82	5
6	2.88	41	9.42	1.70	38	5.88	1.88	30	4.80	6
7	2.88	42	8.38	1.81	30	4.17	2.01	35	6.08	7
8	2.63	38	7.88	1.88	25	3.41	2.10	38	6.89	8
9	2.28	34	8.73	1.82	23	3.22	2.00	31	5.38	9
10	2.23	31	5.87	1.81	16	2.48	1.88	28	4.80	10
11	2.12	28 S	5.24	1.82	40	6.28	1.84	28	4.81	11
12	1.87	30 S	4.85	1.84	27	4.82	1.83	27	4.27	12
13	1.88	28	4.08	1.21	18	1.88	1.80	27	4.20	13
14	1.83	27	3.87	1.20	15	1.88	1.88	31	5.08	14
15	1.38	26	2.84	1.78	30 S	4.58	2.28	71	14.8	15
16	1.31	24	2.81	1.81	18	3.14	2.38	70	14.3	16
17	1.88	22	2.87	1.87	15	2.18	2.81	88	21.4	17
18	1.88	47	6.43	1.88	11	1.80	2.70	84	12.8	18
19	1.87	87	8.27	1.88	11	1.48	2.28	28	5.71	19
20	1.88	78	11.1	1.88	9	1.23	2.13	22 S	4.08	20
21	1.88	83	14.1	1.81	17	2.88	2.08	24	4.27	21
22	1.83	88	7.04	1.84	28	4.38	2.07	27	4.83	22
23	1.78	48	7.84	2.17	41 S	7.88	2.80	84	20.3	23
24	1.81	37	5.18	2.02	37	6.45	2.84	73	18.7	24
25	1.47	28	3.88	1.88	30	4.87	2.30	47	9.34	25
26	1.88	84	7.74	1.81	28 S	4.07	2.21	47	8.87	26
27	2.10	85	15.4	1.78	24	3.83	2.05	38 S	6.81	27
28	2.08	76 S	13.7	1.88	22	3.18	2.00	32	5.70	28
29	2.07	63	11.3	2.18	44	8.33	2.01	32	5.73	29
30	1.88	55	9.48	2.23	48 S	8.44	1.88	32	5.47	30
31	1.73	42	6.26	1.88	28	4.71				31
TOTAL	81.04		284.11	53.82		126.40	85.83		333.38	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	1.82	28	4.84	2.33	48	9.38	8.18	51	27.1	1
2	2.03	27	4.74	2.30	42	8.35	5.23	43 S	18.4	2
3	2.17	38	7.12	2.38	38	7.81	4.88	37	14.8	3
4	2.01	32	5.88	2.38	38	7.88	4.30 B	31	11.8	4
5	1.82	28	4.81	2.28	38	7.88	4.00 B	38	12.8	5
6	1.88	27	4.88	2.38	38	8.08	3.80 B	80	18.4	6
7	1.87	24	4.08	2.87	34	7.84	3.88 B	37	11.7	7
8	1.88	23	3.88	3.30	43	12.3	3.80 B	28	8.47	8
9	1.83	22	3.87	3.88	47 S	15.8	3.42 B	34	10.0	9
10	2.40	37 S	7.87	4.82	81	35.8	3.38 B	40	11.8	10
11	3.88	81 S	29.0	4.88	172	72.7	3.28 B	37	10.5	11
12	2.88	40	9.88	4.27	73	26.9	3.22 B	30	8.38	12
13	2.40	27	5.80	3.74	35	11.3	3.18 B	25	6.87	13
14	2.24	23	4.45	8.00 E	33 S	17.1	3.10 B	20	5.38	14
15	2.08	20	3.88	8.88	228	188	3.02 B	20	5.22	15
16	2.05	17	3.03	28.7	1 840 S	4 240	3.00 B	18	4.82	16
17	2.04	13	2.28	28.2	1 380	3 380	2.87 B	22	5.85	17
18	2.11	18	3.28	19.3	272	820	2.83 B	18	4.81	18
19	2.19	23	4.35	12.0	105	109	2.80 B	18	4.74	19
20	2.05	24	5.80	9.89	83	71.8	2.85 B	18	4.43	20
21	3.80	30 S	8.85	8.87	80	74.4	2.83 B	18	4.40	21
22	4.11	24	8.82	7.84	54	37.0	2.82 B	17	4.14	22
23	3.87	18	6.03	6.84	48	28.4	2.81 B	17	4.13	23
24	3.35	13 S	3.78	5.78	35	18.0	2.80 B	20	4.84	24
25	3.18	18	4.40	5.04	21	8.14	2.80 B	19	4.80	25
26	2.88	18	4.00	4.84	18	7.83	2.78 B	18	4.32	26
27	2.77	33	7.80	4.71	20	8.14	2.78 B	19	4.63	27
28	2.58	31	6.91	8.58	88	38.7	2.74 B	22	5.21	28
29	2.46	28	6.00	7.38	85	84.7	2.72 B	24	5.84	29
30	2.42	38	7.85	7.37	78	49.7	2.70 B	28	6.77	30
31	2.38	44 S	9.05				3.40 B	84	15.8	31
TOTAL	78.04		184.48	217.84		8 140.88	103.58		288.88	TOTAL

B - ICE CONDITIONS E - ESTIMATED S - SAMPLE(S) COLLECTED THIS DAY

BIG OTTER CREEK NEAR CALTON - STATION NO. 02GC026

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
JAN 04	14:10	0.1	6.90	34.0	DH59	86															
MAR 30	10:50	7.0	23.7	34.0	DH59	601	388														
APR 01	16:30	6.0	17.2	34.0	DH59	326															
APR 05	09:30	4.0	31.6	34.0	DH59	601	636														
APR 08	09:15	0.1	12.6	34.0	DH59	244															
APR 11	13:25	2.0	8.10	34.0	DH59	124															
APR 11	16:50	5.0	7.71	34.0	DH59	153															
APR 15	14:00	5.0	10.4	34.0	DH59	327															
APR 18	10:50	3.5	15.5	34.0	DH59	540	440														
APR 25	14:25	8.0	5.82	34.0	DH59	82															
APR 28	16:30	8.0	5.14	34.0	DH59	58															
MAY 04	12:10	8.0	4.32	34.0	DH59	38															
MAY 24	15:10	15.0	4.17	34.0	DH59	56															
MAY 30	09:30	14.0	4.71	34.0	DH59	641	278														
MAY 31	11:00	16.0	4.56	34.0	DH59	326	383														
JUN 02	10:20	15.0	7.85	34.0	DH59	3970	316														
JUN 17	16:40	14.0	3.86	34.0	DH59	92															
JUN 22	14:10	12.0	6.60	34.0	DH59	984	385														
JUN 30	10:00	18.0	3.20	34.0	DH59	71															
JUL 11	11:45	23.0	2.25	34.0	DH59	30															
JUL 12	13:40	18.0	1.90	34.0	DH59	81															
JUL 28	16:30	20.1	2.12	34.0	DH59	72															
AUG 04	08:50	22.0	1.48	34.0	DH59	28															
AUG 15	09:50	16.1	2.08	34.0	DH59	32															
AUG 23	14:10	17.5	2.20	34.0	DH59	46															
AUG 28	10:20	18.0	1.85	34.0	DH59	26															
AUG 30	08:15	20.0	2.38	34.0	DH59	53															
SEP 20	11:30	17.0	2.23	34.0	DH59	22	184														
SEP 27	15:30	12.0	2.11	34.0	DH59	37															
OCT 10	10:45	10.0	2.08	34.0	DH59	23															
OCT 11	15:20	11.0	3.71	34.0	DH59	88															
OCT 21	15:10	7.0	4.18	34.0	DH59	34	288														
OCT 24	13:10	8.0	3.40	34.0	DH59	13															
OCT 31	08:20	11.0	3.08	34.0	DH59	43															
NOV 09	13:15	7.5	4.87	34.0	DH59	50															
NOV 14	08:32	8.0	4.25	34.0	DH59	28															
NOV 14	14:15	8.0	3.48	34.0	DH59	31															
NOV 15	08:32	8.0	25.2	34.0	DH59	1610	274														
DEC 02	14:00	3.0	5.18	34.0	DH59	42															

NOTE : SINGLE VERTICAL LOCATED AT 34.0 METRES FOR 1988

BIG OTTER CREEK NEAR CALTON - STATION NO. 02GC026

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)		SUMMARY : JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1976	PPPPPPPCCCCC	MANUAL	845	AUG 25	52	OCT 08	3 470	DEC 16	35 500		---	---	---
1978	CCCCCCCCCCCC	MANUAL	1 650	MAR 05	11	OCT 12	9 810	MAR 06	139 000		384	384	---
1977	CCCCCCCCCCCC	MANUAL	2 520	SEP 26	23	FEB 22	14 200	SEP 27	177 000		484	418	15.5
1978	CCCCCCCCCCCC	MANUAL	2 600	SEP 15	38	NOV 10	8 340	MAR 23	106 000		287	378	14.6
1979	CCCCCCCCCCCC	MANUAL	3 300	APR 14	54	SEP 27	34 100	APR 15 *	187 000		513	413	12.5
1980	CCCCCCCCCCCC	MANUAL	2 650	SEP 14	48	NOV 20	19 400	MAR 22	185 000		532	436	10.7
1981	CCCCCCCCCCCC	MANUAL	1 330	OCT 01	37	FEB 10	8 110	FEB 24	114 000		313	418	10.4
1982	CCCCCCCCCCCC	MANUAL	2 410	MAY 30	18	OCT 05	12 600	APR 01	258 000	*	707	457	12.1
1983	CCCCCCCCCCCC	MANUAL	2 130	AUG 12	22	MAY 17	30 600	AUG 12	237 000		648	461	11.1
1984	CCCCCCCCCCCC	MANUAL	2 170	SEP 25 *	26	OCT 11	17 700	MAY 23	199 000		545	488	9.8
1985	CCCCCCCCCCCC	MANUAL	4 630	MAR 28	38	JAN 8	11 600	MAR 09	183 000		497	488	8.7
1986	CCCCCCCCCCCC	MANUAL	2 650	MAR 19	26	FEB 12	23 600	MAR 20	184 000		480	486	8.0
1987	CCCCCCCCCCCC	MANUAL	1 480	APR 8	17	JUL 31	8 030	MAR 08	80 800		248	488	8.7
1988	CCCCCCCCCCCC	MANUAL	1 130	APR 4	10	OCT 5 *	7 780	MAR 25	58 000		181	442	10.0
1989	CCCCCCCCCCCC	MANUAL	3 970	JUN 12	13	OCT 24	4 240	NOV 16	36 100		88.1	418	11.4

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BIGHEAD RIVER NEAR MEAFORD - STATION NO. 02FB010

LOCATION: LAT 44 34 10 N LONG 080 39 00 W
DRAINAGE AREA: 293 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MAR 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 31	10:00	3.0	23.3	10.0	DH59	41	250														
APR 19	09:00	5.0	7.83	10.0	DH48	11	158														

NOTE : SINGLE VERTICAL LOCATED AT 10 METRES FOR 1988

BIGHEAD RIVER NEAR MEAFORD - STATION NO. 02FB010

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1987	--PPPPP-PPP-	MANUAL	59	NOV 30 *	5	MAY 25	---	---	---	---	---	---
1988	---P----PPP-	MANUAL	13	OCT 25	4	NOV 29 *	---	---	---	---	---	---
1989	--PP--------	MANUAL	41	MAR 31	11	APR 19	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BLACK ASH CREEK AT COLLINGWOOD - STATION NO. 02ED025

LOCATION: LAT 44 29 05 N LONG 080 14 17 W
DRAINAGE AREA: 30.6 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
NOV 20	16:50	1.0	0.383	MID	DH48	33	202														
NOV 21	08:20	1.0	0.284	MID	DH48	63	148														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

BLACK ASH CREEK AT COLLINGWOOD - STATION NO. 02ED025

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	----------P-	MANUAL	63	NOV 21 *	33	NOV 20 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BLACK RIVER NEAR MARATHON - STATION NO. 02BB002

LOCATION: LAT 48 41 20 N LONG 086 12 45 W
DRAINAGE AREA: 1 980 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
OCT 10	13:00	5.0	3.17	21.0	DH59	2	130														

NOTE : SINGLE VERTICAL LOCATED AT 21 METRES FOR 1988

BLACK RIVER NEAR MARATHON - STATION NO. 02BB002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	---P--P--P--	MANUAL	647 APR 25	*	12 OCT 21		---	---	---	---	---	---
1986	---P---------	MANUAL	242 APR 25		210 APR 24		---	---	---	---	---	---
1987	-----P-------	MANUAL	12 JUN 15		12 JUN 15		---	---	---	---	---	---
1988	----PP-PP----	MANUAL	93 MAY 12		6 AUG 26		---	---	---	---	---	---
1989	----------P--	MANUAL	2 OCT 10		2 OCT 10	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

BLACK STURGEON RIVER AT HIGHWAY NO. 17 - STATION NO. 03AC002

LOCATION: LAT 48 54 13 N LONG 088 22 38 W
DRAINAGE AREA: 3 880 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1989

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUL 06	09:45		25.3	MID	DH59	8	126														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1989

BLACK STURGEON RIVER AT HIGHWAY NO. 17 - STATION NO. 03AC002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1989	------P-----	MANUAL	8 JUL 6	*	8 JUL 6	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CANARD RIVER NEAR LUKERVILLE - STATION NO. 02EH003

LOCATION: LAT 42 09 33 N LONG 083 01 05 W
DRAINAGE AREA: 150 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 05	08:20		13.0	14.0	DH59	483	317														
JUN 13	10:30	18.0	0.257	14.0	DH48	177	478														
JUL 10	13:45	24.0	0.021	14.0	DH48	88	1500														
JUL 21	15:20	25.0	138	14.0	DH59	134	118														
JUL 22	11:00	25.0	82.2	14.0	DH59	82	115														
JUL 22	19:35	25.0	80.9	14.0	DH59	60	250														
JUL 23	10:15	25.0	36.9	14.0	DH59	22	132														
AUG 01	13:50	26.0	0.288	14.0	DH48	85	570														
SEP 06	07:20	21.0	0.025	14.0	DH48	41	3100														
SEP 18	14:30	19.0	0.402	14.0	DH48	132	644														
NOV 01	10:55	9.0	0.071	14.0	DH48	88	1080														
NOV 28	10:50	5.0	0.178	14.0	DH48	88	710														
DEC 12	14:50	0.5	0.035	14.0	DH48	22	1880														

NOTE : SINGLE VERTICAL LOCATED AT 14.0 METRES FOR 1988

CANARD RIVER NEAR LUKERVILLE - STATION NO. 02EH003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	---P-PPPP-PP	MANUAL	483 APR 5 *		22 JUL 23 *		--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CATFISH CREEK NEAR SPARTA - STATION NO. 02EC018

LOCATION: LAT 42 44 48 N LONG 081 03 38 W
DRAINAGE AREA: 257 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	18:35	10.0	11.2	7.0	DH59	318	423	14	37	63	89	92	97	99	100				3	60	37

NOTE : SINGLE VERTICAL LOCATED AT 7 METRES FOR 1988

CATFISH CREEK NEAR SPARTA - STATION NO. 02EC018

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1985	---PPPPP-P--	MANUAL	185 AUG 28		18 MAY 7		---	---	---	---	---	---
1986	--P--PPPPPP-	MANUAL	506 MAR 11		13 NOV 6		---	---	---	---	---	---
1987	--PPP-P-PP-P	MANUAL	43 JUL 2		8 MAR 14	*	---	---	---	---	---	---
1988	--P----------	MANUAL	737 MAR 28	*	35 MAR 11		---	---	---	---	---	---
1989	--P----------	MANUAL	316 MAR 28		316 MAR 28		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

COPELAND CREEK NEAR PENETANGUISHENE - STATION NO. 02ED018

LOCATION: LAT 44 45 49 N LONG 079 57 10 W
DRAINAGE AREA: 26.9 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1989

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAR 28	14:00	4.0	1.35	MID	DH48	459	112	13	13	20	30	42	53	80	90	98	100		47	40	13
MAR 28	07:55	1.0	1.83	MID	DH48	384	105	13	14	25	36	52	88	77	88	100			34	52	14
MAY 01	12:45	11.0	0.189	MID	DH48	15	206														
MAY 30	14:05	14.0	0.088	MID	DH48	5	203														
JUN 27	13:30	23.0	0.080	MID	DH48	7	126														
JUL 31	11:00	18.0	0.035	MID	DIP	2	124														
AUG 28	11:50	19.0	0.045	MID	DIP	2	160														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1989

COPELAND CREEK NEAR PENETANGUISHENE - STATION NO. 02ED018

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1989	--P-PPPP----	MANUAL	459 MAR 28	*	2 JUL 31	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

CREDIT RIVER AT ERINDALE - STATION NO. 02HB002

SUSPENDED SEDIMENT FOR 1988

LOCATION: LAT 43 32 34 N LONG 79 39 26 W
DRAINAGE AREA: 766 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD IS 100 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS: OPEN WATER SAMPLING ONLY

DAY	JAN DAILY DISCHARGE (m³/s)	JAN MEAN CONCENTRATION (mg/L)	JAN DAILY LOAD (t)	FEB DAILY DISCHARGE (m³/s)	FEB MEAN CONCENTRATION (mg/L)	FEB DAILY LOAD (t)	MAR DAILY DISCHARGE (m³/s)	MAR MEAN CONCENTRATION (mg/L)	MAR DAILY LOAD (t)	DAY
1	4.80 B	B	3.81	10.3	102 B	228	4.03 B	14	4.87	1
2	4.85 B	B B	3.77	10.2	75	66.1	4.05 B	13	4.68	2
3	4.80 B	B	3.32	8.80 B	7 B	3.33	4.15 B	14	5.02	3
4	4.75 B	B	3.30	4.80 B	B	2.07	4.30 B	22	8.17	4
5	4.75 B	B	2.48	4.20 B	7	2.84	4.60 B	40	15.8	5
6	4.75 B	B	3.38	3.90 B	10	3.27	4.65 B	33	12.6	6
7	4.75 B	12	4.82	3.70 B	10	3.30	4.45 B	17	8.04	7
8	10.3 B	41	35.5	3.55 B	8 B	2.75	4.40 B	12	4.58	8
9	8.20 B	28	18.4	3.35 B	7	2.15	4.45 B	9	3.45	9
10	7.30 B	15	9.48	3.57 B	15	4.83	4.50 B	9	3.50	10
11	6.80 B	11	6.48	3.85 B	20	9.15	4.70 B	9	3.85	11
12	6.50 B	10	6.32	3.80 B	15	5.25	5.40 B	23	10.7	12
13	7.20 B	10	6.33	3.95 B	9	3.07	5.00 B	27	11.7	13
14	8.70 B	8	6.83	4.10 B	9	3.19	4.80 B	25	10.6	14
15	8.20 B	8	6.62	4.50 B	8	3.11	45.0 B	221	859	15
16	5.80 B	12	5.61	4.05 B	8	2.10	25.0 B	61	132	16
17	5.30 B	10	4.58	4.00 B	8	2.07	16.0 B	34	47.0	17
18	4.80 B	10	4.33	3.85 B	7	2.38	8.90 B	23	18.9	18
19	4.40 B	10	3.80	3.85 B	8	2.73	8.70 B	20	11.6	19
20	3.90 B	9	3.03	4.00 B	8	2.76	8.10 B	17	8.86	20
21	3.85 B	10	3.15	4.05 B	8	2.82	8.70 B	14	8.88	21
22	3.70 B	10	3.20	4.10 B	8	2.83	8.40 B	13	8.07	22
23	4.05 B	9	3.80	4.10 B	8	2.83	8.00 B	11	8.33	23
24	4.00 B	9	3.11	4.05 B	9	3.15	7.00 B	31	18.7	24
25	4.10 B	9	3.18	4.05 B	9	3.17	25.0 B	260	562	25
26	13.3 B	80	91.9	4.05 B	9	3.15	55.7	380	1 880	26
27	8.00 B	50 B	36.9	4.03 B	10	3.48	46.6	264 B	1 070	27
28	8.00 B	18	12.4	4.03 B	12	4.18	53.5	225	1 040	28
29	8.20 B	20	14.3				47.6	188 B	766	29
30	11.0 B	57	54.2				25.1	52	113	30
31	14.3	80	98.8				15.3	31 B	41.0	31
TOTAL	200.18		484.27	131.78		378.81	485.18		8 491.28	TOTAL

DAY	APR DAILY DISCHARGE (m³/s)	APR MEAN CONCENTRATION (mg/L)	APR DAILY LOAD (t)	MAY DAILY DISCHARGE (m³/s)	MAY MEAN CONCENTRATION (mg/L)	MAY DAILY LOAD (t)	JUN DAILY DISCHARGE (m³/s)	JUN MEAN CONCENTRATION (mg/L)	JUN DAILY LOAD (t)	DAY
1	11.7	28	28.3	8.48	8 B	3.35	11.3	198 B	193	1
2	8.78	28	21.8	8.05	7	4.87	31.8	2 130 B	5 820	2
3	14.1	84 B	85.8	7.88	8 B	5.87	11.4	204	200	3
4	23.8	82 B	187	7.00	8	5.44	14.3	138	188	4
5	20.2	63 B	92.8	7.20	23 B	14.3	11.2	66 B	63.9	5
6	15.3	33	30.4	7.88	35	18.4	8.38	80	43.0	6
7	16.1	31 B	27.4	7.78	41	27.5	8.88	47 B	26.8	7
8	13.8	13	14.2	7.34	33 B	20.8	8.88	35	19.1	8
9	10.8	11	10.1	6.84	32	18.4	8.88	42 B	30.8	9
10	8.13	8 B	7.08	6.27	33 B	17.8	8.82	55	33.8	10
11	8.07	13	8.37	8.80	40	33.8	8.48	42	23.5	11
12	7.86	11 B	7.47	13.8	72 B	86.5	8.71	36 B	16.7	12
13	8.70	8	8.77	18.4	79	112	8.21	28	13.8	13
14	8.88	10	7.51	11.8	28	28.8	6.80	24 B	8.85	14
15	10.8	25	23.3	8.85	29 B	16.5	6.78	25	10.2	15
16	10.8	28	26.1	7.80	17	11.2	6.85	27	11.5	16
17	8.77	15	12.7	6.72	18 B	8.29	8.61	35	15.7	17
18	8.83	8	7.41	6.38	15	8.38	8.34	46	26.3	18
19	8.88	8 B	6.84	6.03	14 B	7.29	8.84	29 B	14.8	19
20	7.84	7	4.82	6.58	24	13.8	7.32	47	29.7	20
21	7.13	7	4.31	7.11	21	12.8	7.85	52 B	34.4	21
22	6.73	8	4.88	6.61	18	10.8	21.0	102	185	22
23	6.22	8	4.30	5.88	18 B	8.25	14.8	82	78.8	23
24	6.01	10 B	5.18	5.93	18	8.21	10.4	46	41.3	24
25	5.84	8	4.84	5.81	18	8.03	10.4	181	270	25
26	5.82	8 B	4.82	8.13	18 B	8.83	11.3	76 B	73.2	26
27	5.84	8	4.84	5.88	27	15.8	7.88	82	38.8	27
28	5.88	8 B	4.83	5.83	29	10.1	8.87	41 B	24.3	28
29	5.10	8	4.74	4.87	14 B	8.01	8.75	21	10.4	29
30	6.82	8	5.18	5.35	34	24.2	8.03	18	8.80	30
31				8.48	78 B	82.8				31
TOTAL	294.70		841.48	236.06		831.72	280.15		7 822.06	TOTAL

B - ICE CONDITIONS

B - SAMPLE(S) COLLECTED THIS DAY

CREDIT RIVER AT ERINDALE - STATION NO. 02HB002

SUSPENDED SEDIMENT FOR 1988

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	4.04	13	5.21	2.04	9	1.59	3.01	31 E	8.05	1
2	4.21	10	3.84	1.95	6 E	1.01	3.53	28	8.84	2
3	4.06	9	3.16	1.92	6	1.33	3.08	17	4.49	3
4	3.91	9	3.04	3.53	36 E	11.5	2.61	13	2.82	4
5	3.76	9 E	2.93	6.72	130	67.9	2.37	12	2.35	5
6	3.74	8	2.89	5.09	86	30.5	2.24	11	2.13	6
7	3.42	8 E	2.36	4.02	43	14.9	2.42	15	3.14	7
8	3.36	8	2.32	3.32	35	10.0	2.85	15	3.43	8
9	3.36	8	2.32	2.99	27	6.86	2.45	13	2.75	9
10	3.39	7	1.99	2.76	22	5.26	2.99	17	4.39	10
11	3.10	8	2.14	2.82	17	3.85	2.78	12 E	2.89	11
12	2.86	9	2.30	2.82	16	4.07	2.63	9	2.05	12
13	2.86	10	2.47	3.06	46	12.2	2.37	6 E	1.23	13
14	2.83	9	2.20	4.15	65 E	16.1	2.64	9	1.98	14
15	2.76	7	1.87	10.3	305 E	271	2.67	11 E	2.84	15
16	2.88	5	1.16	5.40	136 E	63.0	2.71	12	2.81	16
17	2.72	7	1.86	3.87	20	6.66	2.81	11	2.87	17
18	2.63	6	1.47	3.26	18 E	5.07	2.70	13 E	3.03	18
19	2.82	7 E	1.71	2.88	19	4.73	2.66	10	2.21	19
20	3.06	8	2.13	2.94	33	8.38	2.35	6 E	1.22	20
21	3.13	9	2.43	2.92	31 E	7.62	2.27	6 E	1.18	21
22	2.73	9	2.12	2.72	14	3.28	4.43	82	33.7	22
23	2.67	13	3.22	2.66	8 E	1.68	5.16	81	36.1	23
24	2.61	12	2.80	2.57	7	1.55	3.09	18	4.81	24
25	5.01	88	38.1	2.46	8 E	1.70	2.84	7 E	1.80	25
26	3.81	50	16.8	2.36	7	1.38	2.81	5	1.08	26
27	3.47	40	12.0	2.18	7	1.31	2.27	6 E	0.88	27
28	3.50	26 E	7.88	2.12	8 E	1.47	2.19	4	0.76	28
29	3.78	13	3.13	2.08	8	1.63	2.26	4 E	0.79	29
30	3.45	11	2.33	2.06	12 E	2.14	2.17	5	0.94	30
31	3.08	10 E	1.80	2.10	10	1.81				31
TOTAL	100.55		138.84	104.84		502.13	82.37		136.97	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	2.12	4	0.73	3.48	12 E	3.82	5.70 E	16	7.86	1
2	2.61	4 E	0.87	3.18	9	2.48	4.80 E	14	5.81	2
3	2.63	5	1.14	3.20	6 E	1.38	4.60 E	12	4.77	3
4	2.86	5 E	1.11	3.20	7	1.94	4.85 E	11	4.32	4
5	2.62	1	0.21	3.13	7	1.89	4.80 E	8	3.11	5
6	2.43	2 E	0.42	4.27	15	5.53	4.45 E	8	3.06	6
7	2.80	4	0.88	8.82	123	84.8	4.35 E	9	3.38	7
8	2.37	7	1.43	8.78	81 E	53.4	4.30 E	7	2.80	8
9	2.28	8	1.58	8.86	45	27.1	4.25 E	4	1.47	9
10	3.84	45	14.2	8.87	22 E	11.2	4.20 E	4	1.45	10
11	4.82	27 E	11.2	8.16	10	7.13	4.15 E	4	1.44	11
12	4.15	18	6.65	4.71	9	3.66	4.15 E	2 E	0.72	12
13	3.39	7 E	2.05	4.37	6 E	2.27	4.10 E	2	0.71	13
14	3.66	14	4.43	8.09	85	34.2	4.08 E	3	1.08	14
15	4.25	13	4.77	13.9	200 E	240	4.08 E	3	1.06	15
16	4.86	23 E	9.30	36.2	253	886	4.06 E	3	1.05	16
17	5.26	34	15.5	16.0	101 E	157	4.02 E	4	1.39	17
18	4.86	27 E	10.6	11.2	82	80.3	4.00 E	4	1.38	18
19	8.45	88	27.3	7.84	21	14.2	4.00 E	4	1.38	19
20	12.8	316 E	351	7.58	25 E	16.4	4.00 E	4	1.38	20
21	8.42	48	37.2	8.88	32	24.8	4.00 E	4	1.38	21
22	6.13	17	7.52	8.40 E	18	8.98	4.00 E	3	1.04	22
23	4.46	11 E	4.33	8.80 E	14	8.77	4.00 E	4	1.38	23
24	4.02	10	3.47	8.10 E	18	7.08	4.00 E	4	1.38	24
25	3.85	9 E	2.78	4.85 E	18	7.70	4.00 E	4	1.38	25
26	3.30	10	3.65	4.80 E	18	8.77	4.03 E	4	1.39	26
27	3.30	7 E	2.00	4.85 E	15	8.42	4.08 E	4	1.41	27
28	3.36	8	2.36	8.00 E	81	38.7	4.20 E	6	2.18	28
29	3.13	6	2.15	8.00 E	52	28.8	4.50 E	11	4.28	29
30	3.04	8 E	1.88	7.00 E	24	14.5	4.80 E	25	10.8	30
31	3.85	30	8.88				5.00 E	88	31.8	31
TOTAL	122.04		537.62	218.87		1 474.88	133.85		107.75	TOTAL

E - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

CREDIT RIVER AT ERINDALE - STATION NO. 02HB002

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 02	08:30	0.1	4.85 W	MID	DH48	8															
JAN 27	08:30	0.1	8.00 W	MID	DH48	47															
FEB 01	12:45	0.5	16.3 H	MID	DH48	178															
FEB 03	08:30	0.1	5.25	MID	DH48	5															
FEB 08	08:30	0.1	3.55 W	MID	DH48	8															
MAR 27	08:20	0.1	48.9	MID	DH48	248															
MAR 30	08:40	0.1	61.5	MID	DH48	218															
MAR 28	12:00	0.5	47.3	MID	DH48	167															
MAR 31	08:30	2.0	15.7	MID	DH48	38															
APR 03	08:00	5.0	10.6	MID	DH48	45															
APR 06	07:30	8.0	21.1	MID	DH48	80	488														
APR 07	07:30	3.0	15.7	MID	DH48	33															
APR 10	07:45	3.0	9.36	MID	DH48	10															
APR 12	12:10	3.5	7.66	MID	DH48	12															
APR 18	07:30	4.5	8.70	MID	DH48	8															
APR 24	07:30	5.5	8.08	MID	DH48	11															
APR 28	07:30	10.0	8.97	MID	DH48	6															
APR 30	07:30	8.0	8.01	MID	DH48	8															
MAY 01	07:30	8.0	8.32	MID	DH48	7															
MAY 03	07:30	7.0	7.86	MID	DH48	6															
MAY 03	10:00	7.0	7.87	MID	DH48	8															
MAY 08	07:50	10.0	7.71	MID	DH48	37															
MAY 08	07:40	8.0	7.58	MID	DH48	33															
MAY 10	07:30	8.5	8.20	MID	DH48	33															
MAY 12	07:45	8.0	10.2	MID	DH48	48	488														
MAY 15	12:00	10.0	8.08	MID	DH48	21															
MAY 17	07:40	14.5	8.81	MID	DH48	14															
MAY 19	07:30	17.0	8.01	MID	DH48	13															
MAY 23	11:20	18.5	8.89	MID	DH48	19															
MAY 26	07:40	17.0	8.08	MID	DH48	22															
MAY 29	07:30	18.0	8.11	MID	DH48	13															
MAY 31	07:40	18.0	8.24	MID	DH48	19	483														
JUN 01	08:20	18.0	12.7	MID	DH48	118															
JUN 03	07:30	17.5	58.7	MID	DH48	2440	237														
JUN 05	07:30	18.5	11.9	MID	DH48	85															
JUN 07	07:30	18.0	8.88	MID	DH48	51															
JUN 09	07:30	20.0	8.38	MID	DH48	37															
JUN 12	07:30	18.5	8.82	MID	DH48	38															
JUN 14	07:30	18.0	8.06	MID	DH48	38															
JUN 18	07:30	20.0	8.32	MID	DH48	27															
JUN 21	07:30	18.0	7.46	MID	DH48	52															
JUN 26	07:30	21.0	12.1	MID	DH48	78															
JUN 28	07:30	21.0	7.28	MID	DH48	44															
JUL 05	07:30	22.0	3.87	MID	DH48	6															
JUL 07	07:45	23.5	3.84	MID	DH48	6															
JUL 19	10:30	23.0	3.87	MID	DH48	7															
JUL 26	07:30	22.0	3.90	MID	DH48	27															
JUL 31	07:30	20.0	3.14	MID	DH48	10															
AUG 02	07:30	21.0	3.02	MID	DH48	7															
AUG 04	07:30	24.0	1.88	MID	DH48	7															
AUG 14	07:30	16.5	3.44	MID	DH48	41															
AUG 15	08:50	19.0	4.06	MID	DH48	17															
AUG 16	07:30	17.5	5.47	MID	DH48	134	388														
AUG 18	07:30	17.0	3.36	MID	DH48	18															
AUG 21	07:30	19.0	2.89	MID	DH48	28															
AUG 23	07:30	20.0	2.87	MID	DH48	8															
AUG 25	07:30	19.0	2.48	MID	DH48	6															
AUG 28	07:30	18.0	2.11	MID	DH48	6															
AUG 30	07:30	19.0	2.06	MID	DH48	12															
SEP 01	07:30	20.0	3.17	MID	DH48	10															
SEP 11	07:30	18.0	3.80	MID	DH48	12															
SEP 13	07:30	17.0	2.42	MID	DH48	5															
SEP 15	07:30	18.0	2.87	MID	DH48	10															
SEP 18	07:45	14.0	2.87	MID	DH48	12															
SEP 20	08:45	14.0	2.33	MID	DH48	6															
SEP 21	07:30	15.0	2.33	MID	DH48	5															
SEP 25	07:30	9.0	2.70	MID	DH48	9															
SEP 27	07:30	8.0	2.36	MID	DH48	4															
SEP 29	07:30	10.5	2.28	MID	DH48	5															
OCT 02	07:30	10.0	2.85	MID	DH48	5															
OCT 04	07:30	7.0	2.81	MID	DH48	4															
OCT 06	07:30	11.0	2.42	MID	DH48	1															
OCT 11	07:30	8.0	4.75	MID	DH48	23	342														
OCT 13	07:30	8.0	3.54	MID	DH48	8															
OCT 16	07:30	10.0	4.30	MID	DH48	11															
OCT 18	07:30	8.0	4.85	MID	DH48	27															
OCT 18	13:05	8.0	4.33	MID	DH48	22															
OCT 20	07:30	7.0	27.3	MID	DH48	595	226														
OCT 23	07:45	8.0	4.54	MID	DH48	11															
OCT 25	07:40	8.5	3.70	MID	DH48	5															
OCT 27	07:30	10.0	3.37	MID	DH48	4															
OCT 30	08:30	8.0	3.08	MID	DH48	5															
NOV 01	08:30	7.0	3.60	MID	DH48	5															
NOV 03	08:40	4.0	3.25	MID	DH48	5															
NOV 08	08:30	5.0	8.38	MID	DH48	68	340														
NOV 10	08:30	4.0	5.03	MID	DH48	20															
NOV 10	10:40	4.0	5.58	MID	DH48	20															
NOV 13	08:30	3.5	4.37	MID	DH48	8															
NOV 15	08:30	10.0	12.6	MID	DH48	155	204														
NOV 17	08:30	3.0	19.4	MID	DH48	108															
NOV 20	08:45	2.0	7.06	MID	DH48	20															
DEC 12	13:15	0.5	4.15 W	MID	DH48	2															

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

DISCHARGE SYMBOL(S): H - DAILY MEAN W - DAILY MEAN; ICE CONDITIONS

CREDIT RIVER AT ERINDALE - STATION NO. 02HB002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : HISTORICAL STANDARD ERROR OF MEAN %
1972	--------CCCCC	DUAL	280	NOV 15		1	OCT 06		353	OCT 30		3 400	---	---	---
1974	CCCCCCCCCCCC	DUAL	3 030	MAY 17		1	SEP 06		88 200	MAY 17	*	133 000	* 383	383	---
1975	CCCCCCCCCCCC	MANUAL	1 830	APR 19		1	JAN 05		30 200	APR 19		70 100	192	276	30.8
1976	CCCCCCCCCCCC	MANUAL	1 030	MAR 20		3	JUL 19		14 100	MAR 20		53 600	145	234	26.2
1977	CCCCCCCCCCCC	MANUAL	893	MAR 13		4	MAY 16		12 700	MAR 13		48 800	135	207	26.1
1978	CCCCCCCCCCCC	MANUAL	816	APR 01		3	OCT 02		5 540	APR 01		26 700	76.7	181	27.1
1979	CCCCCCCCCCCC	MANUAL	717	DEC 24		1	SEP 22		8 460	DEC 24		46 500	127	172	23.8
1980	CCCCCCCCCCCC	MANUAL	1 270	MAR 21		3	OCT 15		8 880	MAR 21		30 900	84.5	158	23.2
1981	CCCCCCCCCCCC	MANUAL	834	SEP 04		1	SEP 15		6 270	FEB 15		36 700	100	153	21.3
1982	CCCCCCCCCCCC	MANUAL	1 770	MAR 31		1	JAN 11		15 600	MAR 31		50 400	138	151	19.1
1983	CCCCCCCCCCCC	MANUAL	339	DEC 12		1	APR 22		1 670	FEB 03		22 100	60.4	142	19.2
1984	CCCCCCCCCCCC	MANUAL	745	APR 5		0	JAN 18	*	---	---		---	---	---	---
1985	CCCCCCCCCCCC	MANUAL	1 880	FEB 28		3	MAY 17		---	---		---	---	---	---
1986	CCCCCCCCCCCC	MANUAL	1 340	AUG 27		1	JAN 8		10 600	SEP 11		80 800	---	---	---
1987	CCCCCCCCCCCC	MANUAL	1 030	SEP 18		4	JAN 5		3 540	APR 05		24 600	88.0	135	19.0
1988	CCCCCCCCCCCC	MANUAL	881	MAR 26		1	JAN 11		3 080	MAR 25		17 900	49.0	128	19.1
1989	CCCCCCCCCCCC	MANUAL	3 440	JUN 2	*	1	OCT 6		8 830	JUN 02		18 100	82.4	122	19.1

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH * - EXTREME FOR PERIOD OF RECORD

CREDIT RIVER AT NORVAL - STATION NO. 02HB025

LOCATION: LAT 43 38 55 N LONG 079 61 22 W
DRAINAGE AREA: 615 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1989

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAR 28	15:15	3.0	31.3	14.0	DH59	182	196														
MAR 29	13:40	2.0	27.6	14.0	DH59	88	222														
MAY 02	10:10	8.0	6.13	14.0	DH48	18	366														
MAY 31	08:45	18.0	7.45	14.0	DH48	27	414														
JUN 01	10:20	16.0	6.47	14.0	DH48	40	418														
JUL 18	08:40	23.0	2.61	14.0	DH48	8	380														
AUG 15	11:35	24.0	3.41	14.0	DH48	11	308														
SEP 21	13:10	14.0	2.61	14.0	DH48	8	380														
NOV 10	14:47	8.0	4.34	14.0	DH48	4	414														

NOTE : SINGLE VERTICAL LOCATED AT 14.0 METRES FOR 1989

CREDIT RIVER AT NORVAL - STATION NO. 02HB025

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : HISTORICAL STANDARD ERROR OF MEAN %
1989	--P-PPPPP-P-	MANUAL	182	MAR 28	*	4	NOV 10	*	---	---		---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

DON RIVER AT TODMORDEN - STATION NO. 02HC024

LOCATION: LAT 43 41 50 N LONG 079 21 15 W
DRAINAGE AREA: 310 km²
TYPE OF FLOW: REGULATED SINCE 1973
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 17	14:15	4.0	1.75	10.0	DH48	8	2110														
FEB 20	15:45	1.0	1.46	10.0	DH48	10	778														
NOV 04	09:30	8.0	5.26	10.0	DH48	138	286														

NOTE : SINGLE VERTICAL LOCATED AT 10 METRES FOR 1988

DON RIVER AT TODMORDEN - STATION NO. 02HC024

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1985	---P-PP-PCCC	DUAL	1 270 NOV 4		4 OCT 30		2 900 NOV 04		9 770	---	---	---
1986	CCCCCCCCCCCC	DUAL	6 630 SEP 11	*	3 FEB 13	*	64 600 SEP 11	*	167 000	* 467	467	---
1987	CCCCCCCCCCCC	DUAL	2 380 JUL 14		8 MAR 18		2 150 JUL 14		27 800	78.2	267	71.3
1988	CCCCCCCCCCCC	DUAL	7 780 SEP 4		4 MAY 8		3 800 SEP 04		15 100	41.3	182	89.5
1989	PP--------P-	MANUAL	138 NOV 8		9 JAN 17		--- ---		---	---	---	---

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

DUFFINS CREEK AT PICKERING - STATION NO. 02HC008

LOCATION: LAT 43 51 10 N LONG 079 03 44 W
DRAINAGE AREA: 248 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
NOV 15	13:10	8.0	10.0	6.5	DH59	780	303	3	5	9	23	45	63	78	93	100			37	58	5
NOV 15	18:15	8.0	10.0	6.5	DH59	513	258	4	6	11	25	43	54	70	91	98	100		46	48	6

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

DUFFINS CREEK AT PICKERING - STATION NO. 02HC003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	---------PPP	MANUAL	182	MAR 28	4	NOV 10	---	---	---	---	---	---
1975	PPPPPPPPPPPP	MANUAL	3 030	MAY 17 *	1	SEP 05 *	---	---	---	---	---	---
1976	PPPPPP-------	MANUAL	1 020	APR 18	1	JAN 05	---	---	---	---	---	---
1989	----------P-	MANUAL	780	NOV 15	813	NOV 15	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ETOBICOKE CREEK BELOW QUEEN ELIZABETH HIGHWAY - STATION NO. 02HC030

LOCATION: LAT 43 36 02 N LONG 079 33 34 W
DRAINAGE AREA: 204 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
FEB 20	14:30	1.0	3.88	13.0	DH48	227	1160														
NOV 15	11:55	11.0	15.6	13.0	DH59	156	176	14	23	48	72	86	89	95	98	100			11	66	23

NOTE : SINGLE VERTICAL LOCATED AT 13 METRES FOR 1989

ETOBICOKE CREEK BELOW QUEEN ELIZABETH HIGHWAY - STATION NO. 02HC030

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	---P-PPPPPPP	MANUAL	883	AUG 28	3	OCT 31 *	---	---	---	---	---	---
1986	-PPPP-PPPPPP	MANUAL	1 100	SEP 11 *	5	APR 11	---	---	---	---	---	---
1987	-PPPPPPPPPPP	MANUAL	377	DEC 8	3	OCT 13	---	---	---	---	---	---
1988	PP----------	MANUAL	303	FEB 1	121	JAN 31	---	---	---	---	---	---
1989	-P--------P-	MANUAL	227	FEB 20	156	NOV 15	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

FAIRCHILD CREEK NEAR BRANTFORD - STATION NO. 02GB007

LOCATION: LAT 43 08 49 N LONG 080 09 18 W
DRAINAGE AREA: 380 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 10	12:35	5.0	4.70	12.0	DH48	50	417														

NOTE : SINGLE VERTICAL LOCATED AT 12 METRES FOR 1988

FAIRCHILD CREEK NEAR BRANTFORD - STATION NO. 02GB007

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	--P-P-P---P-	MANUAL	188	MAR 13		34	MAY 9		---	---	---	---	---	---
1986	--PP-PP--P--	MANUAL	183	OCT 1		35	APR 10		---	---	---	---	---	---
1987	---PPP--PPP-	MANUAL	255	APR 6		14	NOV 23	*	---	---	---	---	---	---
1988	----------P-	MANUAL	257	NOV 21	*	257	NOV 21		---	---	---	---	---	---
1989	---P--------	MANUAL	50	APR 10		50	APR 10		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

FRENCH RIVER AT DRY PINE BAY - STATION NO. 03DD010

LOCATION: LAT 46 03 01 N LONG 080 34 28 W
DRAINAGE AREA: 13 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUL 12	13:00	23.0	71.1	MID	DH59	30	1380														
AUG 16	11:00	22.5	50.4	MID	DH59	24	831														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

FRENCH RIVER AT DRY PINE BAY - STATION NO. 03DD010

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	------PP----	MANUAL	30	JUL 12	*	24	AUG 16	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

GOULAIS RIVER NEAR SEARCHMONT - STATION NO. 02BF002

LOCATION: LAT 48 51 37 N LONG 083 56 15 W
DRAINAGE AREA: 1 180 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED APR 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 04	09:20	4.0	102	23.0	D48	37	852														
JUN 28	17:50	21.0	15.8	12.0 X	D48	14	508														
NOV 09	12:03	4.0	25.8	12.0 X	D48	17	2390														

NOTE : SINGLE VERTICAL LOCATED AT 23 METRES FOR 1988

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

GOULAIS RIVER NEAR SEARCHMONT - STATION NO. 02BF002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1986	---P-P------	MANUAL	38 APR 8 *		3 JUN 11 *		---	---	---	---	---	---
1987	---P-P-P-PP-	MANUAL	31 AUG 25		9 OCT 6		---	---	---	---	---	---
1988	---PP---P---	MANUAL	16 APR 13		10 SEP 1		---	---	---	---	---	---
1989	----PP----P-	MANUAL	37 MAY 4		14 JUN 28		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

GRAND RIVER NEAR MARSVILLE - STATION NO. 02GA014

LOCATION: LAT 43 51 43 N LONG 080 15 22 W
DRAINAGE AREA: 884 km²
TYPE OF FLOW: REGULATED SINCE 1953
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 29	14:50	1.0	193	MID	DH59	69	194														
MAY 24	12:15	17.0	3.80	MID	DH48	4	384														
JUN 28	09:45	23.0	7.38	MID	DH48	6	323														
AUG 10	09:30	18.0	1.07	MID	DH48	3	188														
SEP 19	10:00	18.0	1.12	MID	DH48	3	32														
DEC 05	13:00	0.1	5.84	MID	DH48	70	84														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

GRAND RIVER NEAR MARSVILLE - STATION NO. 02GA014

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1988	--P-PP-PP--P	MANUAL	88 MAR 28 *		2 AUG 10 *		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

GRAVEL RIVER NEAR CAVERS - STATION NO. 02AE001

LOCATION: LAT 46 55 34 N LONG 087 41 37 W
DRAINAGE AREA: 816 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. DISSOLVED CONCENT. (mg/L)	SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .003	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 23	10:30		25.0	14.0	DIP	19	31														
JUL 12	12:00		4.18	14.0	DIP	2	72														
OCT 18	09:30	5.0	1.97	14.0	DIP	1	62														

NOTE : SINGLE VERTICAL LOCATED AT 14 METRES FOR 1988

GRAVEL RIVER NEAR CAVERS - STATION NO. 02AE001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1985	------P-PP--	MANUAL	3 SEP 11		1 JUL 12 *		---	---	---	---	---	---
1986	---P--P------	MANUAL	16 APR 24		4 JUL 30		---	---	---	---	---	---
1987	---P-P--P---	MANUAL	12 JUN 10		1 SEP 4		---	---	---	---	---	---
1988	-----P--P---	MANUAL	21 SEP 21 *		2 JUN 24		---	---	---	---	---	---
1989	----P-P--P--	MANUAL	19 MAY 23		1 OCT 18		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

HIGHLAND CREEK NEAR WEST HILL - STATION NO. 02HC013

LOCATION: LAT 43 48 42 N LONG 079 11 28 W
DRAINAGE AREA: 88.2 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 04	13:05	8.0	11.8	8.0	DH48	1880	411	7	11	18	32	53	74	78	87	100			38	53	11
APR 04	13:30	8.0	6.53	8.0	DH48	884	387	11	18	28	51	75	88	93	98	100			13	73	15
APR 04	16:15	8.0	2.78	8.0	DH48	228	430	23	29	36	78	84	87	89	98	100			13	48	39
AUG 03	10:35	21.0	36.4	8.0	DH59	2580	184														
AUG 03	11:35	21.0	51.1	8.0	DH59	5080	248	8	11	15	24	41	67	87	98	100			33	53	11
AUG 03	13:10	21.0	83.0	8.0	DH59	8570	288	3	8	8	14	27	71	95	100				39	55	6
AUG 03	13:42	21.0	11.3	8.0	DH59	1410	208														
AUG 03	15:40	21.0	5.36	8.0	DH59	403	210														
SEP 07	12:15	20.0	7.70	13.0	X DH48	907	222														
NOV 07	14:50	8.0	7.73	8.0	DH48	201	332														
NOV 07	15:30	8.0	8.80	8.0	DH48	411	226														

NOTE : SINGLE VERTICAL LOCATED AT 8.0 METRES FOR 1988

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

HIGHLAND CREEK NEAR WEST HILL - STATION NO. 02HC013

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	---P-PP-PPPP	MANUAL	888	SEP 28	9	JUN 11 *	---	---	---	---	---	---
1986	-PPPPPPPPPPP	MANUAL	478	MAR 19	3	NOV 26	---	---	---	---	---	---
1987	-PPPPPPPPPPP	MANUAL	83	OCT 14	4	AUG 11	---	---	---	---	---	---
1988	----P-P-----	MANUAL	2 270	JUL 28	13	MAY 10	---	---	---	---	---	---
1989	---P---PP-P-	MANUAL	8 570	AUG 3 *	201	NOV 7	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

HOG CREEK NEAR VICTORIA HARBOUR - STATION NO. 02ED017

LOCATION: LAT 44 43 23 N LONG 079 48 45 W
DRAINAGE AREA: 88.8 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	12:15	2.0	9.41	MID	DH59	574	154	2	7	12	22	43	63	78	88	100			38	55	7
MAR 30	15:45	4.0	2.31	MID	DH48	77	178														
MAY 01	15:00	11.0	0.270	MID	DH48	15	247														
MAY 30	15:25	16.0	0.224	MID	DH48	25	308														
JUN 27	15:00	23.0	0.178	MID	DH48	16	886														
JUL 21	12:00	21.0	0.049	MID	DIP	6	216														
AUG 28	13:10	18.0	0.088	MID	DH48	10	284														
OCT 03	14:15	13.0	0.206	MID	DH48	23	184														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

MUS CREEK NEAR VICTORIA HARBOUR - STATION NO. 02ED017

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1988	--P-PPPP-P--	MANUAL	674	MAR 28 *	5	JUL 31 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

HOLLAND RIVER AT HOLLAND LANDING - STATION NO. 02EC008

LOCATION: LAT 44 05 41 N LONG 079 20 24 W
DRAINAGE AREA: 181 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAR 27	14:30	3.0	4.30	MID	DH48	237	262	18	27	52	67	93	99	99	100				1	72	27
MAR 28	11:15	3.0	3.77	MID	DH48	205	261	27	38	60	85	94	95	98	99	100			5	68	30
JUN 14	09:55	17.0	0.472	MID	DH48	74	408														
JUL 10	11:35	25.0	0.300	MID	DH48	14	324														
AUG 30	09:05	20.0	0.280	MID	SURF	32	352														
OCT 10	08:30	8.0	0.339	MID	DH48	87	444														
NOV 07	11:30	6.0	1.24	MID	DH48	75	324	18	31	42	66	85	94	98	99	100			8	72	21
NOV 07	11:35	6.0	1.24	MID	DH48	95	338														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

HOLLAND RIVER AT HOLLAND LANDING - STATION NO. 02EC008

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1988	--P--PPP-PP-	MANUAL	237	MAR 27 *	14	JUL 10 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ONTARIO

NUMBER RIVER AT ELDER MILLS - STATION NO. 02HC038

SUSPENDED SEDIMENT FOR 1988

LOCATION: LAT 43 48 38 N LONG 79 37 36 W
DRAINAGE AREA: 302 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

TOTAL SUSPENDED SEDIMENT LOAD 13 400 TONNES FOR THE PERIOD JAN 01 TO DEC 31

REMARKS:OPEN WATER SAMPLING ONLY

JAN				FEB			MAR			
DAY	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	1.02 B	11	1.04	4.00 B	84	31.8	0.900 B	9	0.70	1
2	1.00 B	17	2.20	3.80 B	41	12.4	0.880 B	8	0.61	2
3	1.42 B	18	3.21	2.70 B	36	8.03	0.870 B	8 S	0.60	3
4	1.37 B	13	1.84	3.20 B	17	3.23	0.860 B	8	0.59	4
5	1.30 B	11	1.24	1.80 B	20	3.11	0.850 B	7	0.51	5
6	1.28 B	10	1.11	1.72 B	20	2.97	0.840 B	8	0.64	6
7	1.22 B	6	0.84	1.60 B	18	2.49	0.830 B	8	0.35	7
8	1.60 B	45 S	7.15	1.52 B	18 S	2.38	0.803 B	7 S	0.48	8
9	2.30 B	47	13.4	1.48 B	18	2.35	0.800 B	8	0.62	9
10	2.40 B	26	8.38	1.41 B	18	2.19	0.780 B	18	1.10	10
11	2.26 B	5 S	0.87	1.35 B	17	1.88	0.760 B	18	1.23	11
12	2.15 B	9	1.97	1.32 B	17	1.84	0.755 B	32	2.17	12
13	2.02 B	6	1.40	1.28 B	15	1.73	0.750 B	21 S	1.42	13
14	1.85 B	5	1.01	1.27 B	15 S	1.68	0.770 B	37	2.46	14
15	1.80 B	5	0.82	1.22 B	15	1.68	14.5 B	837 S	673	15
16	1.82 B	6	0.84	1.18 B	15	1.84	22.3 B	1 080	2 080	16
17	1.78 B	5	0.77	1.15 B	17	1.88	7.85	232 S	158	17
18	1.72 B	5 S	0.68	1.13 B	17	1.88	3.02	80	15.7	18
19	1.68 B	5	0.67	1.10 B	18	1.71	2.45 B	80	10.6	19
20	1.62 B	6	1.12	1.08 B	18	1.68	2.00 B	87	9.88	20
21	1.59 B	6	1.10	1.05 B	18	1.83	1.80 B	33	5.13	21
22	1.57 B	7	0.85	1.03 B	18	1.42	1.70 B	35 S	5.03	22
23	1.54 B	7	0.83	1.00 B	13	1.12	2.00 'B	36	10.0	23
24	1.51 B	9 S	1.17	0.980 B	13 S	1.10	3.05 B	36	14.6	24
25	1.48 B	11	1.41	0.970 B	13	1.08	7.88	488	371	25
26	3.70 B	66 S	21.1	0.950 B	13	0.98	17.6 B	1 840 S	2 530	26
27	3.00 B	73	18.9	0.930 B	8	0.72	15.4	884 S	1 280	27
28	2.05 B	33	7.33	0.920 B	8	0.84	18.5	1 570 S	2 280	28
29	2.40 B	45	9.33				11.0	851	819	29
30	3.00 B	414 S	107				8.15	330	123	30
31	5.80 B	148 S	88.4				3.88	87	30.0	31
TOTAL	64.04		335.70	43.430		84.25	151.087		10 121.88	TOTAL

APR				MAY			JUN			
DAY	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAILY DISCHARGE (m^3/s)	MEAN CONCENTRATION (mg/L)	DAILY LOAD (t)	DAY
1	3.02	83	16.4	3.38	14	3.77	2.17	48	8.00	1
2	2.80	57	12.8	3.30	16	3.29	3.48	78	15.8	2
3	3.20	126	34.8	2.87	43	10.7	1.84	55	8.33	3
4	5.01	316 S	137	2.83	37	8.41	2.83	75	15.4	4
5	5.48	557	280	2.88	11 S	2.43	2.88	88	18.8	5
6	4.32	231	84.3	2.84	32	8.84	3.08	70	12.8	6
7	5.05	173	75.5	2.78	17	4.10	1.48	47	6.83	7
8	3.05	88	32.4	2.85	16	4.84	1.34	32	3.70	8
9	3.10	48	13.1	3.00	24	8.32	1.75	51	7.71	9
10	2.88	43	8.88	2.44	18	3.78	2.73	122	28.8	10
11	2.31	34	6.78	2.22	15	3.07	2.36	88	18.4	11
12	2.13	21	5.08	4.77	240 S	88.8	1.83	87 S	13.8	12
13	2.30	33	4.87	8.12	312 S	218	1.83	88	8.12	13
14	2.85	33	8.07	5.13	87	43.0	1.38	88	8.48	14
15	2.73	38 S	8.88	3.88	40	12.8	1.31	84 S	8.11	15
16	2.87	38	7.44	2.87	28	8.48	1.36	88	8.48	16
17	2.78	33	8.82	2.41	10	2.08	1.44	82	7.71	17
18	2.78	17	4.10	2.08	15	2.71	1.58	87	8.02	18
19	2.88	15	3.47	1.80	12	1.87	1.81	70	8.74	18
20	3.48	13	3.78	1.83	16	2.37	1.88	113 S	18.0	20
21	3.38	18	3.38	8.20	28	4.78	2.83	142	32.3	21
22	2.85	13	2.30	2.08	22	3.87	4.02	218 S	110	22
23	1.80	13	2.13	1.71	15	1.82	4.48	282	87.8	23
24	1.83	12	1.80	1.88	10	1.43	3.00	113	30.3	24
25	1.84	12	1.81	1.88	8	1.21	2.88	128	32.0	25
26	1.80	11	1.81	1.88	11	1.88	2.78	104	24.8	26
27	1.88	8	1.38	1.78	21	3.18	2.01	77	13.4	27
28	1.86	7	1.18	1.83	14	1.88	1.80	82	8.87	28
29	1.82	8 S	1.80	1.48	10	1.21	1.38	83 S	8.18	29
30	2.18	7	1.32	1.82	18 S	3.18	1.18	47	4.78	30
31				1.87	27	4.38				31
TOTAL	83.88		745.71	80.83		474.18	83.31		885.18	TOTAL

B - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

NUMBER RIVER AT ELDER MILLS - STATION NO. 02HC025

SUSPENDED SEDIMENT FOR 1988

DAY	JUL DAILY DISCHARGE (m^3/s)	JUL MEAN CONCENTRATION (mg/L)	JUL DAILY LOAD (t)	AUG DAILY DISCHARGE (m^3/s)	AUG MEAN CONCENTRATION (mg/L)	AUG DAILY LOAD (t)	SEP DAILY DISCHARGE (m^3/s)	SEP MEAN CONCENTRATION (mg/L)	SEP DAILY LOAD (t)	DAY
1	1.10	37	3.52	0.979	33	1.38	1.14	47	4.83	1
2	1.08	32	2.89	0.721	27	1.68	1.02	83	6.33	2
3	1.01	29	2.63	0.870	32	1.27	1.34	39	4.52	3
4	0.883	24	1.84	1.17	583 E	59.9	1.04	30	1.80	4
5	0.800	19	1.46	3.36	887	262	1.30	42	4.72	5
6	0.808	30	2.36	3.31	180	34.4	0.837	37	2.15	6
7	0.884	28	2.14	1.34	58	8.48	2.12	88 E	17.8	7
8	0.851	40	2.84	0.883	49	3.43	1.14	45	4.43	8
9	0.830	37 E	2.65	0.887	30 E	2.28	0.886	24	2.05	9
10	0.780	35	2.30	0.868	28	2.12	0.886	18	1.80	10
11	0.780	44	2.85	0.813	33	2.32	0.847	14	1.15	11
12	0.731	44 E	2.74	0.776	28	1.87	0.802	14	1.08	12
13	0.873	36	2.09	0.841	29	2.11	0.871	16	1.13	13
14	0.804	37	2.32	1.07	52	4.81	0.831	13	0.93	14
15	0.871	34	1.87	1.38	67	7.99	0.883	13	0.97	15
16	0.878	32	1.88	1.37	68	7.24	0.880	13	0.97	16
17	0.870	32	1.85	1.01	32	2.78	0.868	18	1.55	17
18	0.862	31	1.80	0.882	20	1.48	1.02	28	2.20	18
19	0.838	34	1.93	0.881	15	1.11	0.838	17	1.38	19
20	0.844	28	1.38	0.884	18 E	1.04	0.881	16	1.12	20
21	0.728	24 E	1.51	0.881	14	1.02	0.818	13	0.92	21
22	0.727	32	2.04	0.882	14	0.87	0.738	14 E	0.88	22
23	0.718	51	3.18	0.780	14	0.82	1.02	28	2.20	23
24	0.670	33	1.83	0.883	20	1.38	1.13	28	2.84	24
25	0.888	30	1.88	0.748	18 E	1.02	0.878	16	1.82	25
26	0.703	32	1.84	0.720	18	1.00	0.882	22	1.61	26
27	0.748	34	2.20	0.886	17	1.02	0.840	16	1.16	27
28	0.618	36 E	2.08	0.878	18	0.83	0.783	13	0.88	28
29	0.638	32	2.32	0.878	15	0.88	0.810	16	1.28	29
30	0.821	31	2.20	0.709	15	0.83	0.828	16	1.14	30
31	0.709	26	1.88	0.716	20 E	1.23				31
TOTAL	24.162		67.83	30.833		408.87	30.834		78.88	TOTAL

DAY	OCT DAILY DISCHARGE (m^3/s)	OCT MEAN CONCENTRATION (mg/L)	OCT DAILY LOAD (t)	NOV DAILY DISCHARGE (m^3/s)	NOV MEAN CONCENTRATION (mg/L)	NOV DAILY LOAD (t)	DEC DAILY DISCHARGE (m^3/s)	DEC MEAN CONCENTRATION (mg/L)	DEC DAILY LOAD (t)	DAY
1	0.720	11	0.68	1.26	18	1.88	1.88	18 E	3.81	1
2	0.844	18	1.88	1.18	18	1.82	1.37 E	18	1.88	2
3	0.884	18	1.33	1.18	13	1.33	1.32 E	18	2.08	3
4	0.888	18	1.18	1.18	12	1.22	1.27 E	17	1.87	4
5	0.878	13	0.88	1.18	10	0.88	1.20 E	16	1.88	5
6	0.808	14	0.88	1.27	10 E	1.10	1.14 E	10	0.88	6
7	0.828	18 E	1.30	1.83	8 E	1.27	1.10 E	12	1.14	7
8	0.884	18	1.48	1.86	18	2.74	1.05 E	13	1.18	8
9	0.810	18	1.28	2.18	14	2.08	1.02 E	12 E	1.08	9
10	1.08	13	1.18	3.30	8	1.71	0.880 E	8	0.88	10
11	1.81	18 E	2.84	1.78	8	1.32	0.880 E	10	0.83	11
12	1.88	27 E	5.82	1.84	8	1.08	0.840 E	11	0.88	12
13	1.31	21 E	3.38	1.41	8	0.73	0.818 E	8 E	0.83	13
14	1.21	17	1.78	1.88	18	2.08	0.800 E	12	1.01	14
15	1.78	28	5.88	3.38	84 E	18.8	0.880 E	8	0.81	15
16	1.82	33	5.18	8.83	247 E	207	0.870 E	8	0.38	16
17	1.81	31	3.74	8.81	201	101	0.880 E	8	0.37	17
18	1.88	18	2.88	3.87	87	28.8	0.840 E	8	0.44	18
19	1.88	18	2.87	2.87	48	10.8	0.838 E	7	0.88	19
20	2.13	24 E	6.48	2.11	31	5.88	0.828 E	10	0.71	20
21	2.88	38	8.83	2.44	38	8.48	0.818 E	14	0.88	21
22	1.87	33	3.81	1.88	21	3.88	0.800 E	18	1.84	22
23	1.88	17	2.38	1.82 E	18	1.87	0.788 E	14	0.88	23
24	1.48	18	1.84	1.48 E	18	1.82	0.788 E	14	0.88	24
25	1.33	14	1.88	1.48 E	12	1.88	0.780 E	12	0.81	25
26	1.31	12	1.38	1.43 E	18	1.24	0.778 E	10	0.87	26
27	1.23	11	1.17	2.88 E	18	1.73	0.788 E	7	0.48	27
28	1.88	12	1.24	3.88	13	4.48	0.788 E	8	0.88	28
29	1.17	13	1.31	3.88	18	8.72	0.788 E	8	0.88	29
30	1.17	13	1.31	3.83	17	3.72	0.788 E	11	0.72	30
31	1.31	18	1.87				2.88 E	18	2.87	31
TOTAL	41.318		73.48	87.82		438.31	30.868		38.88	TOTAL

E - ICE CONDITIONS

S - SAMPLE(S) COLLECTED THIS DAY

ONTARIO

NUMBER RIVER AT ELDER MILLS - STATION NO. 02HC025

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)		SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JAN 06	11:50	0.5	1.60	W	17.0	DH48	47															
JAN 11	10:30	0.5	2.26	W	17.0	DH48	9															
JAN 18	11:10	0.5	1.72	W	17.0	DH48	6															
JAN 24	10:30	0.1	1.57		17.0	DH48	11															
JAN 28	10:00	0.5	3.70	W	17.0	DH48	88	472														
JAN 30	16:25	0.5	6.86		17.0	DH48	713	315														
JAN 31	14:15	0.5	6.36		17.0	DH48	128	561														
FEB 08	11:30	0.1	1.82	W	17.0	DH48	15															
FEB 14	13:05	0.5	1.37	W	17.0	DH48	15															
FEB 14	13:35	0.5	1.30		17.0	DH48	15															
FEB 24	11:30	0.5	0.880	W	17.0	DH48	13															
MAR 03	15:30	0.5	1.05		17.0	DH48	7															
MAR 06	14:06	0.5	2.06		17.0	DH48	5															
MAR 13	14:10	0.5	2.02		17.0	DH48	17															
MAR 15	15:20	1.0	33.4		17.0	DH59	588															
MAR 16	11:40	0.5	32.5		17.0	DH59	2030	283	5	6	15	31	53	77	84	95	100			23	59	8
MAR 17	13:50	1.0	7.05		17.0	DH59	277															
MAR 22	13:15	1.0	2.46		17.0	DH59	57															
MAR 26	07:55	0.5	15.0		17.0	DH59	1430	213														
MAR 27	15:05	1.0	14.5		17.0	DH59	841															
MAR 28	09:20	1.0	15.7		17.0	DH59	2610	204														
MAR 28	11:30	1.0	20.4		17.0	DH59	3220	210	10	14	21	33	58	80	84	95	100			10	76	14
MAR 30	13:40	2.0	10.5		17.0	DH59	602															
APR 04	12:40	8.0	5.13		17.0	DH48	281															
APR 15	15:50	8.5	2.78		17.0	DH48	29															
APR 29	14:45	11.5	1.85		17.0	DH48	6															
MAY 05	13:15	12.0	2.71		17.0	DH48	8															
MAY 12	14:15	10.0	4.26		17.0	DH48	281	308														
MAY 13	11:45	11.0	8.37		17.0	DH48	301															
MAY 20	19:06	21.5	1.82		17.0	DH48	14															
JUN 12	09:30	19.0	1.85		17.0	DH48	88															
JUN 15	13:45	19.0	1.36		17.0	DH48	54															
JUN 20	08:55	20.0	2.02		17.0	DH48	114															
JUN 22	14:10	20.5	5.80		17.0	DH48	736	340														
JUN 29	10:35	20.5	1.38		17.0	DH48	68															
JUL 08	10:40	24.0	0.855		17.0	DH48	35															
JUL 12	08:20	24.0	0.722		17.0	DH48	44															
JUL 21	15:45	22.0	0.705		17.0	DH48	24															
JUL 28	12:30	22.5	0.765		17.0	DH48	24															
AUG 04	13:50	25.0	1.87		17.0	DH48	1550	288														
AUG 08	11:05	18.5	0.884		17.0	DH48	28															
AUG 20	10:55	22.0	0.802		17.0	DH48	14															
AUG 25	12:00	20.5	0.732		17.0	DH48	18															
AUG 31	08:30	20.0	0.732		17.0	DH48	21															
SEP 07	10:30	20.5	1.80		17.0	DH48	82	128														
SEP 22	15:35	21.0	0.888		17.0	DH48	15															
OCT 07	15:10	11.5	0.815		17.0	DH48	15															
OCT 11	11:25	12.0	1.40		17.0	DH48	9															
OCT 12	16:00	12.0	1.38		17.0	DH48	15															
OCT 26	14:20	7.0	2.08		17.0	DH48	24															
NOV 06	13:45	8.0	1.35		17.0	DH48	11															
NOV 07	09:30	7.0	1.80		17.0	DH48	7															
NOV 15	15:25	1.0	3.43		17.0	DH48	75															
NOV 16	15:10	0.5	7.50		17.0	DH48	436	284														
DEC 01	15:15	0.5	1.53		17.0	DH48	17															
DEC 08	15:10	0.5	1.85		17.0	DH48	8															
DEC 13	09:50	0.5	0.915		17.0	DH48	8															

NOTE : SINGLE VERTICAL LOCATED AT 17.0 METRES FOR 1988

DISCHARGE SYMBOL(S): W - DAILY MEAN; ICE CONDITIONS

NUMBER RIVER AT ELDER MILLS - STATION NO. 02HC025

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1965	--CCCCCCCCCC	MANUAL	670	MAR 01	7	MAY 12	286	MAR 01	4 290	---	---	---
1967	CCCCCCCCCCCC	MANUAL	1 950	JUL 09	12	OCT 05	5 000	APR 03	33 600	85.3	85.3	---
1968	CCCCCCCCCCCC	MANUAL	1 330	AUG 23	8	OCT 23	3 430	MAR 19	23 100	80.4	82.8	3.9
1969	CCCCCCCCCCCC	MANUAL	2 280	APR 18	10	JUN 13	4 290	APR 18	24 600	87.3	84.3	3.3
1970	CCCCCCCCCCCC	MANUAL	2 430	MAY 28	8	SEP 23	1 230	APR 05	8 720	33.8	84.3	18.8
1971	CCCCCCCCCCCC	MANUAL	1 800	APR 03	10	NOV 10	2 440	APR 03	13 500	36.3	80.3	17.7
1972	CCCCCCCCCCCC	MANUAL	1 930	APR 11	6	SEP 25	4 430	APR 14	23 600	84.8	83.7	14.5
1973	CCCCCCCCCCCC	MANUAL	2 900	MAR 08	7	OCT 15	4 030	MAR 04	25 100	71.8	88.4	12.9
1974	CCCCCCCCCCCC	MANUAL	2 100	MAY 17	8	OCT 15	5 850	MAR 05	31 100	87.8	88.4	13.2
1975	CCCCCCCCCCCC	MANUAL	3 710	APR 15	8	OCT 10	12 000	APR 15 *	34 100	83.4	83.2	11.8
1976	CCCCCCCCCCCC	MANUAL	3 610	MAR 20	6	OCT 15	7 850	MAR 20	37 400	103	87.1	11.5
1977	CCCCCCCCCCCC	MANUAL	2 170	SEP 25	15	MAR 07	3 350	OCT 03	31 000	84.8	86.7	10.4
1978	CCCCCCCCCCCC	MANUAL	3 330	APR 01	10	OCT 23	6 830	APR 01	39 500 *	108	73.1	10.3
1979	CCCCCCCCCCCC	MANUAL	1 880	MAR 14	10	SEP 10	3 510	MAR 05	33 200	88.2	73.3	8.4
1980	CCCCCCCCCCCC	MANUAL	3 280	APR 15	14	MAR 05	5 280	APR 15	28 100	71.3	73.3	8.7
1981	CCCCCCCCCCCC	MANUAL	804	JUL 06	8	APR 23	4 700	FEB 15	20 000	54.7	71.8	8.4
1982	CCCCCCCCCCCC	MANUAL	2 380	MAR 31	8	OCT 15	7 850	MAR 31	35 200	98.7	73.5	8.0
1983	CCCCCCCCCCCC	MANUAL	1 070	MAY 03	11	NOV 15	1 430	FEB 03	14 900	40.8	71.8	8.2
1984	CCCCCCCCCCCC	MANUAL	2 580	DEC 29	1	NOV 2 *	2 280	FEB 14	18 900	48.1	70.1	8.1
1985	CCCCCCCCCCCC	MANUAL	3 000	APR 5	9	SEP 24	3 830	APR 05	28 500	78.1	70.8	7.8
1986	CCCCCCCCCCCC	MANUAL	5 870	MAR 18 *	7	NOV 8	6 330	MAR 18	38 800	105	72.3	7.6
1987	CCCCCCCCCCCC	MANUAL	2 630	APR 5	7	NOV 8	4 440	APR 05	16 900	46.2	71.1	7.5
1988	CCCCCCCCCCCC	MANUAL	5 010	MAY 15	3	APR 28	2 500	APR 04	10 000	28.8	69.2	7.8
1989	CCCCCCCCCCCC	MANUAL	2 510	MAR 26	5	JAN 18	2 530	MAR 26	13 400	36.7	67.8	7.9

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH * - EXTREME FOR PERIOD OF RECORD

KEMPTVILLE CREEK NEAR KEMPTVILLE - STATION NO. 02LA005

LOCATION: LAT 44 59 38 N LONG 075 38 48 W
DRAINAGE AREA: 409 km²
TYPE OF FLOW: REGULATED SINCE 1951
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MARCH 1966

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	10:15	1.0	30.8	7.6	D48	24													130		
MAR 31	12:55	1.0	30.8	7.6	D48	7													180		
APR 17	11:10	6.5	10.8	7.6	D48	3													198		
JUN 06	14:40	22.5	2.71	7.6	DH48	5													338		
AUG 01	14:25	26.5	0.988	7.6	DH48	4													188		
AUG 10	11:30	22.0	0.700	7.6	DH48	4													220		
NOV 07	10:55	8.0	2.51	7.6	DH48	2													88		

NOTE : SINGLE VERTICAL LOCATED AT 7.6 METRES FOR 1989

KEMPTVILLE CREEK NEAR KEMPTVILLE - STATION NO. 02LA005

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1966	--PP-PP-P-PP	MANUAL	6	MAR 17	1	SEP 28 *	---	---	---	---	---	---
1967	---PP-------	MANUAL	6	APR 8	3	MAY 27	---	---	---	---	---	---
1968	--PPPP-PPPP-	MANUAL	30	MAR 26 *	1	NOV 23	---	---	---	---	---	---
1969	--PP-P-P--P-	MANUAL	24	MAR 26	3	APR 17	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

KETTLE CREEK AT ST. THOMAS - STATION NO. 02EC002

LOCATION: LAT 42 46 40 N LONG 081 12 52 W
DRAINAGE AREA: 336 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. DISSOLVED CONCENT. (mg/L)	SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 29	17:40	8.0	8.70	20.0	DH59	76	393														

NOTE : SINGLE VERTICAL LOCATED AT 20 METRES FOR 1988

KETTLE CREEK AT ST. THOMAS - STATION NO. 02EC002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	---PPPPP-P--	MANUAL	136	AUG 20		26	MAY 7		---	---	---	---	---	---
1986	--P-PPPPPPP-	MANUAL	921	MAR 19	*	8	NOV 8	*	---	---	---	---	---	---
1987	--PPP-P-PP-P	MANUAL	74	JUL 13		18	MAR 18		---	---	---	---	---	---
1988	--P----------	MANUAL	216	MAR 26		216	MAR 26		---	---	---	---	---	---
1989	--P----------	MANUAL	76	MAR 27		76	MAR 27		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LITTLE PIC RIVER NEAR COLDWELL - STATION NO. 02BA003

LOCATION: LAT 48 50 07 N LONG 088 38 36 W
DRAINAGE AREA: 1 320 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. DISSOLVED CONCENT. (mg/L)	SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 14	11:00	10.0	15.6	MID	DH59	40	155														
OCT 17	13:30	3.0	1.75	MID	DIP	28	16														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

LITTLE PIC RIVER NEAR COLDWELL - STATION NO. 02BA003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1987	---P-P------	MANUAL	102	APR 24		28	JUN 15		---	---	---	---	---	---
1988	----PP-PP---	MANUAL	120	MAY 1	*	16	AUG 24	*	---	---	---	---	---	---
1989	-----P---P--	MANUAL	40	JUN 14		28	OCT 17		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LITTLE ROUGE CREEK NEAR LOCUST HILL - STATION NO. 02HC038

LOCATION: LAT 43 54 26 N LONG 078 12 56 W
DRAINAGE AREA: 77.7 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: REACTIVATED IN 1988 AS MISC. STATION

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
NOV 07	13:30	8.0	0.810	MID	DH48	5	308														

NOTE$_4$: SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

LITTLE ROUGE CREEK NEAR LOCUST HILL - STATION NO. 02HC038

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	----------PP	MANUAL	670	MAR 01		7	MAY 12		---	---	---	---	---	---
1975	PPPPPPPPPPPP	MANUAL	1 850	JUL 09	*	13	DEC 05		---	---	---	---	---	---
1976	PPPP-P------	MANUAL	1 330	AUG 23		8	OCT 23		---	---	---	---	---	---
1988	----------P-	MANUAL	5	NOV 7		5	NOV 7	*	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LYN CREEK NEAR LYN - STATION NO. 02HB008

LOCATION: LAT 44 31 36 N LONG 075 48 19 W
DRAINAGE AREA: km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 17	11:30	0.1	2.04	MID	DH48	13	188														
MAR 23	13:30	0.1	0.741	MID	DH48	8	281														
MAR 28	13:30	1.0	13.4	MID	D48	54	140														
MAR 30	14:25	1.0	6.59	MID	DH48	33	157														
APR 19	10:30	7.0	2.58	MID	DH48	10	272														
MAY 26	09:10	10.0	0.883	MID	DH48	7	347														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

LYN CREEK NEAR LYN - STATION NO. 02HB005

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1987	---P-PP--PP-	MANUAL	9	JUL 23	3	OCT 23 *	---	---	---	---	---	---
1988	--P-P---PPP-	MANUAL	65	MAR 26 *	3	MAY 5	---	---	---	---	---	---
1989	--PPP-------	MANUAL	84	MAR 28	6	MAR 23	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

LYNDE CREEK NEAR WHITBY - STATION NO. 02HC018

LOCATION: LAT 43 53 32 N LONG 078 57 43 W
DRAINAGE AREA: 105 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MARCH 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
NOV 15	13:45	8.0	7.23	3.0	DH48	287	335														

NOTE : SINGLE VERTICAL LOCATED AT 3.0 METRES FOR 1988

LYNDE CREEK NEAR WHITBY - STATION NO. 02HC018

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1988	--P-P---P---	MANUAL	3 280	MAR 19 *	10	MAY 13 *	---	---	---	---	---	---
1987	---PPPPP-PPP	MANUAL	238	APR 6	14	MAY 21	---	---	---	---	---	---
1988	--P---------	MANUAL	750	MAR 29	734	MAR 24	---	---	---	---	---	---
1989	----------P-	MANUAL	287	NOV 15	287	NOV 15	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MAD RIVER BELOW AVENING - STATION NO. 02EE015

LOCATION: LAT 44 19 36 N LONG 080 04 11 W
DRAINAGE AREA: 230 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: MANUAL

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 31	14:00	3.0	17.0	15.0	DH59	37	213														
APR 01	13:30	3.0	15.2	15.0	DH59	33	216														
NOV 29	14:00	3.0	1.60	15.0	DH48	11	183														

NOTE : SINGLE VERTICAL LOCATED AT 15.0 METRES FOR 1989

MAD RIVER BELOW AVENING - STATION NO. 02EE015

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	SAMPLED CONCENTRATION MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1988	------PPPPP-	MANUAL	31 NOV 30	6 JUL 29 *	***	***	***	***	***
1989	--PP------P-	MANUAL	37 MAR 31 *	11 NOV 30	***	***	***	***	***

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MAGPIE RIVER NEAR MICHIPICOTEN - STATION NO. 02EE003

LOCATION: LAT 47 55 20 N LONG 084 49 50 W
DRAINAGE AREA: 1 830 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
JUN 13	10:00	9.0	17.6	MID	SURF	17	19														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1989

MAGPIE RIVER NEAR MICHIPICOTEN - STATION NO. 02EE003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	SAMPLED CONCENTRATION MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1989	-----P------	MANUAL	17 JUN 13 *	17 JUN 13 *	***	***	***	***	***

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MCGREGOR CREEK NEAR CHATHAM - STATION NO. 02GE007

LOCATION: LAT 42 23 00 N LONG 082 05 30 W
DRAINAGE AREA: 202 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	10:45	8.0	3.03	MID	DH48	78	305														
APR 05	10:45	7.0	4.88	MID	DH48	75	559														
MAY 16	13:40	17.0	0.384	MID	DH48	123	888														
JUN 02	11:15		15.3	MID	DH48	462	562	50	65	95	98	98	97	99	100				3	12	85
JUN 14	10:40	18.0	0.444	MID	DH48	85	557														
JUL 10	09:45	22.0	0.144	MID	DH48	89	585														
AUG 14	11:15		0.037	MID	DH48	43	528														
SEP 20	08:55		0.145	MID	DH48	88	754														
OCT 17	12:30	13.0	0.088	MID	DH48	84	532														
NOV 18	10:55	2.0	1.63	MID	DH48	188	488														
DEC 13	11:45	0.5	0.127	MID	DH48	10	880														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

MCGREGOR CREEK NEAR CHATHAM - STATION NO. 02GE007

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1986	--CCCPP-PP--	MANUAL	1 030	MAR 18 *	50	APR 1	3 480	MAR 18 *	18 000 *	---	---	---
1987	--PPP-PPPPP-	MANUAL	353	NOV 3	65	APR 15	---	---	---	---	---	---
1988	--PPP---PPP-	MANUAL	301	MAR 9	65	OCT 4	---	---	---	---	---	---
1989	--PPPPPPPPPP	MANUAL	462	JUN 2	10	DEC 13 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MCKENZIE CREEK NEAR CALEDONIA - STATION NO. 02GG010

LOCATION: LAT 43 02 03 N LONG 079 57 00 W
DRAINAGE AREA: 171 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 19	11:00	4.0	2.88	MID	DH48	111	388														
JUN 27	10:50	24.0	1.17	MID	DH48	78	874														
AUG 08	09:45	18.0	0.174	MID	DH48	30	403														
SEP 18	10:50	15.0	0.288	MID	DH48	84	414														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

MCKENZIE CREEK NEAR CALEDONIA - STATION NO. 02EB010

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	SAMPLED CONCENTRATION MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1989	---P-P-PP---	MANUAL	111 APR 10 *	30 AUG 8 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MISSISSAGI RIVER AT MISSISSAGI CHUTE - STATION NO. 02CC008

LOCATION: LAT 46 12 04 N LONG 083 01 32 W
DRAINAGE AREA: 9 300 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: MANUAL

REMARKS: PROGRAM STARTED 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 30	07:40	16.0	126	84.0	DIP	32	884														
AUG 23	08:50	19.5	33.4	84.0	DIP	34	806														
OCT 06	10:04	7.0	29.3	84.0	DIP	1	1530														

NOTE : SINGLE VERTICAL LOCATED AT 84 METRES FOR 1989

MISSISSAGI RIVER AT MISSISSAGI CHUTE - STATION NO. 02CC008

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	SAMPLED CONCENTRATION MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1987	--------P-PPP	MANUAL	37 AUG 28 *	14 DEC 18	--- ---	---	---	---	---
1988	---P----P---	MANUAL	33 APR 14	7 SEP 2 *	--- ---	---	---	---	---
1989	-----P-P-P--	MANUAL	34 AUG 23	1 OCT 6	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MISSISSIPPI RIVER AT APPLETON - STATION NO. 02KF008

LOCATION: LAT 45 19 38 N LONG 076 07 27 W
DRAINAGE AREA: 3 800 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: DISCONTINUED DEC 31 1988. REACTIVATED JAN 1989

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 17	10:08	8.0	51.4	MID	DAD	5	173														
MAY 23	10:50	18.0	47.3	MID	DAD	5	184														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1989

MISSISSIPPI RIVER AT APPLETON - STATION NO. 02KF008

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1985	---PP-P--PPP	MANUAL	5 APR 12 *		1 OCT 2 *		---	---	---	---	---	---
1988	---PP--------	MANUAL	5 APR 5		3 MAY 2		---	---	---	---	---	---
1989	---PP--------	MANUAL	5 APR 17		5 APR 17		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MOIRA RIVER NEAR FOXBORO - STATION NO. 02HL001

LOCATION: LAT 44 15 14 N LONG 077 25 10 W
DRAINAGE AREA: 2 820 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: DISCONTINUED DEC 31 1985. REACTIVATED JAN 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
APR 11	12:45	3.0	118	MID	D49	7	201														

NOTE : SINGLE VERTICAL LOCATED AT 17 METRES FOR 1989

MOIRA RIVER NEAR FOXBORO - STATION NO. 02HL001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1985	-PP-PP--PPPP	MANUAL	8 NOV 8		0 DEC 8 *		---	---	---	---	---	---
1989	---P--------	MANUAL	7 APR 11 *		7 APR 11		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

MOOSE RIVER ABOVE MOOSE RIVER - STATION NO. 04LB004

LOCATION: LAT 50 44 36 N LONG 081 27 30 W
DRAINAGE AREA: 80 100 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: MANUAL

REMARKS: REPLACES 04LB002 'MOOSE RIVER AT MOOSE RIVER' EFFECTIVE JAN 01 1983

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
SEP 10	09:40	14.0	228	210 X	DIP	53	888														

NOTE : SINGLE VERTICAL LOCATED AT 220 METRES FOR 1989

VERTICAL SYMBOL(S): X - NOT AT REGULAR SINGLE SAMPLE VERTICAL

MOOSE RIVER ABOVE MOOSE RIVER - STATION NO. 04LG004

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1976	------P------		20 JUL 05		7 AUG 23	*	---	---	---	---	---	---
1983	----P--P-P--	MANUAL	11 MAY 30		11 MAY 30		---	---	---	---	---	---
1984	----P--P-P--	MANUAL	78 MAY 10		45 AUG 17		---	---	---	---	---	---
1985	--------P----	MANUAL	83 AUG 17		83 AUG 17		---	---	---	---	---	---
1986	----P-P------	MANUAL	80 MAY 8		42 JUL 11		---	---	---	---	---	---
1987	----P-P---P-	MANUAL	147 JUL 28	*	87 NOV 8		---	---	---	---	---	---
1988	----P--P----	MANUAL	127 MAY 13		81 AUG 12		---	---	---	---	---	---
1989	--------P---	MANUAL	83 SEP 10		83 SEP 10		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

HANTICOKE CREEK AT HANTICOKE - STATION NO. 02EC022

LOCATION: LAT 42 46 34 N LONG 080 04 38 W
DRAINAGE AREA: 181 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT CLAY
MAR 31	15:50	5.0	5.49	13.0	DH59	87	381													

NOTE : SINGLE VERTICAL LOCATED AT 13 METRES FOR 1989

HANTICOKE CREEK AT HANTICOKE - STATION NO. 02EC022

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1984	-----P--P---	MANUAL	312 SEP 11		295 JUN 19		---	---	---	---	---	---
1985	-PPPPP-P-PPP	MANUAL	539 APR 1	*	10 DEC 10		---	---	---	---	---	---
1986	--PPP-P-P-P-	MANUAL	148 MAY 28		12 NOV 4		---	---	---	---	---	---
1987	---PP-P-PPP-	MANUAL	121 JUL 7		7 NOV 24	*	---	---	---	---	---	---
1989	--P----------	MANUAL	87 MAR 31		87 MAR 31		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

ONTARIO

NAPANEE RIVER AT CAMDEN EAST - STATION NO. 02HN007

LOCATION: LAT 44 20 03 N LONG 076 50 15 W
DRAINAGE AREA: 884 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 29	17:50	1.0	25.0	12.0	D49	18	187														

NOTE : SINGLE VERTICAL LOCATED AT 10 METRES FOR 1988

NAPANEE RIVER AT CAMDEN EAST - STATION NO. 02HN007

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	----PP-PP-P-	MANUAL	4	NOV 30	1	JUN 25 *	---	---	---	---	---	---
1986	PPPP-PP-PPPP	MANUAL	7	MAR 27	1	SEP 17	---	---	---	---	---	---
1988	--P----------	MANUAL	18	MAR 29 *	18	MAR 29	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

NEEBING RIVER NEAR THUNDER BAY - STATION NO. 03AB008

LOCATION: LAT 48 22 58 N LONG 089 15 36 W
DRAINAGE AREA: 187 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE IN 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 10	12:30	10.0	4.53	MID	DH48	17	130														
JUN 28	09:00	15.0	2.04	MID	DH48	8	148														
AUG 31	10:15	15.0	0.357	MID	DH48	7	222														
OCT 12	09:00	7.0	0.191	MID	DH48	4	133														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

NEEBING RIVER NEAR THUNDER BAY - STATION NO. 03AB008

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	----PP-P-P--	MANUAL	17	MAY 10 *	4	OCT 12 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

NORTH THAMES RIVER NEAR THORNDALE - STATION NO. 02GD015

LOCATION: LAT 43 06 57 N LONG 081 11 30 W
DRAINAGE AREA: 1 340 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	16:10	7.0	31.4	17.0	DH59	93	330														
APR 18	13:15	4.0	31.5	17.0	DH59	19	408														

NOTE : SINGLE VERTICAL LOCATED AT 17 METRES FOR 1988

NORTH THAMES RIVER NEAR THORNDALE - STATION NO. 02GD015

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	---PPPPP-P--	MANUAL	85	AUG 30		8	MAY 8		***	***	***	***	***	***
1986	--P-PPPPPPP-	MANUAL	88	MAY 22		5	OCT 23	*	***	***	***	***	***	***
1987	--PPPPPPPPPP	MANUAL	88	MAR 31		8	APR 28		***	***	***	***	***	***
1988	--P-------P-	MANUAL	123	MAR 24	*	22	NOV 22		***	***	***	***	***	***
1989	--PP-------	MANUAL	83	MAR 28		19	APR 18		***	***	***	***	***	***

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

NOTTAWASAGA RIVER NEAR BAXTER - STATION NO. 02ED003

LOCATION: LAT 44 16 59 N LONG 079 49 20 W
DRAINAGE AREA: 1 180 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 27	15:45		78.1	15.0	DH59	1050	188	7	9	17	30	45	61	74	84	100			39	52	9
MAR 31	13:40	3.0	10.4	15.0	DH59	117	330														
APR 06	10:00	0.5	13.1	15.0	DH59	97															
JUL 11	11:20	22.0	1.78	15.0	DH59	67	348														
AUG 01	10:00	18.0	1.23	15.0	DH59	58															
AUG 22	09:25	21.0	2.08	15.0	DH59	18	356														
SEP 18	09:10		3.47	15.0	DH59	16	302														
SEP 19	15:25	14.0	3.18	15.0	DH59	21															
OCT 12	14:40	8.5	4.03	15.0	DH59	11															
OCT 23	13:30	8.0	7.08	15.0	DH59	14															
NOV 08	14:05	5.0	4.48	15.0	DH59	5															
NOV 13	14:15	1.0	5.47	15.0	DH59	8															
NOV 18	11:40		33.8	15.0	DH59	527	302														
NOV 20	12:45	3.0	10.8	15.0	DH59	24															

NOTE : SINGLE VERTICAL LOCATED AT 15 METRES FOR 1988

ONTARIO

MOOSONEE RIVER NEAR BAXTER - STATION NO. 02BD003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)			SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : JAN-DEC MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1980	·····P···	MANUAL	32	SEP 10		32	SEP 10		···	···		···	···	···	···
1983	CCCCCCCCCCC	MANUAL	583	APR 04		3	OCT 16		1 810	MAR 20		27 100	74.3	74.3	···
1984	CCCCCCCCCCC	MANUAL	898	FEB 15		5	OCT 10		3 630	FEB 17		49 400	135	105	28.8
1985	CCCCCCCCCCC	MANUAL	1 480	APR 19		1	OCT 30	*	10 800	MAR 29		88 700	191	133	26.3
1986	··CCCCCCCC·	MANUAL	583	SEP 23		3	NOV 11		3 630	MAR 15		43 300	···	···	···
1987	P·CCCCCCCCC	MANUAL	3 810	MAR 6	*	9	MAY 13		14 800	APR 03	*	73 800	* ···	···	···
1988	··PCCCCCCCP	MANUAL	198	APR 7		1	NOV 1		1 720	APR 04		14 800	···	···	···
1989	··PP··PPPPP·	MANUAL	1 060	MAR 27		5	NOV 6		···	···		···	···	···	···

MANUAL - MANUAL SAMPLING

E - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PIC RIVER NEAR MARATHON - STATION NO. 02BB003

LOCATION: LAT 48 46 36 N LONG 086 17 49 W
DRAINAGE AREA: 4 270 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUL 15	10:00	15.0	30.1	33.0	DH59	20	144														

NOTE : SINGLE VERTICAL LOCATED AT 33 METRES FOR 1989

PIC RIVER NEAR MARATHON - STATION NO. 02BB003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)			SAMPLED CONCENTRATION MINIMUM (mg/L)			SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1985	···P··P··P··	MANUAL	3 810	APR 26	*	43	OCT 23		···	···	···	···	···	···
1986	···P·····	MANUAL	670	APR 26		444	APR 25		···	···	···	···	···	···
1987	···P·P·····	MANUAL	180	APR 23		30	JUN 16	*	···	···	···	···	···	···
1988	····PP·PP···	MANUAL	218	MAY 12		83	JUN 21		···	···	···	···	···	···
1989	·····P·····	MANUAL	30	JUL 15		30	JUL 15		···	···	···	···	···	···

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

PIGEON RIVER AT MIDDLE FALLS - STATION NO. 02AA001

LOCATION: LAT 48 00 44 N LONG 089 38 58 W
DRAINAGE AREA: 1 550 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INTERNATIONAL GAUGING STATION

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 10	11:00	9.0	99.9	MID	SURF	39	74														
JUL 18	11:10	20.0	9.11	MID	SURF	9	12														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

PIGEON RIVER AT MIDDLE FALLS - STATION NO. 02AA001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	----P-P-----	MANUAL	39 MAY 10 *	9 JUL 18 *	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

RAISIN RIVER NEAR WILLIAMSTOWN - STATION NO. 02MC001

LOCATION: LAT 45 00 10 N LONG 074 38 18 W
DRAINAGE AREA: 404 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: DISCONTINUED DEC 31 1985. REACTIVATED JAN 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 29	10:35	3.0	93.2	MID	DOB	87	134														

NOTE : SINGLE VERTICAL LOCATED AT 8 METRES FOR 1988

RAISIN RIVER NEAR WILLIAMSTOWN - STATION NO. 02MC001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	---PPP-P--PP	MANUAL	30 NOV 13	3 AUG 1 *	--- ---	---	---	---	---
1986	--P----------	MANUAL	75 MAR 27	12 MAR 31	--- ---	---	---	---	---
1988	--P----------	MANUAL	87 MAR 29 *	87 MAR 29	--- ---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

REDHILL CREEK AT ALBION FALLS - STATION NO. 02HA023

LOCATION: LAT 43 12 01 N LONG 079 49 33 W
DRAINAGE AREA: 33.6 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 27	15:00	11.0	0.814	MID	DH48	48	932														
APR 17	14:30	11.0	0.218	MID	DH48	21	1040														
MAY 24	12:30	17.0	0.103	MID	DH48	7	1140														
JUN 27	10:55	18.0	0.088	MID	DH48	7	1300														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

REDHILL CREEK AT ALBION FALLS - STATION NO. 02HA023

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	--PPPP------	MANUAL	48	MAR 27 *	7	MAY 24 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

REDHILL CREEK AT HAMILTON - STATION NO. 02HA014

LOCATION: LAT 43 13 56 N LONG 079 47 08 W
DRAINAGE AREA: 60.8 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 19	08:45	5.0	0.274	4.0	DH48	7	1060														
MAY 24	14:45	20.0	0.180	4.0	DH48	11	1080														
JUN 27	12:50	23.0	0.134	4.0	DH48	10	1180														

NOTE : SINGLE VERTICAL LOCATED AT 4 METRES FOR 1988

REDHILL CREEK AT HAMILTON - STATION NO. 02HA014

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1985	-PP-P--PP-PP	MANUAL	2 760	MAR 26 *	0	AUG 16 *	---	---	---	---	---	---
1986	--PPP-P----P	MANUAL	263	MAR 11	10	MAY 7	---	---	---	---	---	---
1987	-PPPPPPPPPPP	MANUAL	380	APR 8	2	OCT 29	---	---	---	---	---	---
1988	-PP------P--	MANUAL	764	OCT 16	47	MAR 24	---	---	---	---	---	---
1989	---PPP------	MANUAL	11	MAY 24	7	APR 19	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ROOT RIVER AT SAULT STE. MARIE - STATION NO. 02CA002

LOCATION: LAT 46 33 49 N LONG 084 16 55 W
DRAINAGE AREA: 108 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 29	08:10	5.0	0.408	14.0	DH48	44	761														
AUG 21	10:05	21.0	0.033	14.0	DH48	2	1870														
OCT 06	08:20	7.0	0.218	14.0	DH48	38	835														

NOTE : SINGLE VERTICAL LOCATED AT 14.0 METRES FOR 1989

ROOT RIVER AT SAULT STE. MARIE - STATION NO. 02CA002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1989	-----P-P-P--	MANUAL	44	JUN 29 *	2	AUG 21 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

ROUGE RIVER NEAR MARKHAM - STATION NO. 02HC023

LOCATION: LAT 43 51 30 N LONG 079 13 55 W
DRAINAGE AREA: 108 km²
TYPE OF FLOW: REGULATED SINCE 1988
TYPE OF GAUGE: RECORDING

REMARKS: CONTRIBUTED BY OMOE 1974-1978

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
OCT 30	11:10	5.0	0.88	9.0	DH48	87	328														
NOV 07	13:15	5.0	1.03	9.0	DH48	13	410														

NOTE : SINGLE VERTICAL LOCATED AT 9.0 METRES FOR 1989

ONTARIO

ROUGE RIVER NEAR MARKHAM - STATION NO. 02HC032

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1974	----------PP	MANUAL	2 280	MAR 18 *	10	MAY 13 *	***	***	***	***	***	***
1975	PPPPPPPPPPPP	MANUAL	338	APR 8	14	MAY 21	***	***	***	***	***	***
1976	PPPP-P------	MANUAL	780	MAR 26	734	MAR 24	***	***	***	***	***	***
1988	----------PP-	MANUAL	87	OCT 30	13	NOV 7	***	***	***	***	***	***

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

RUSCOM RIVER NEAR RUSCOM STATION - STATION NO. 02EH003

LOCATION: LAT 42 13 54 N LONG 082 37 00 W
DRAINAGE AREA: 135 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MAR 1986

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 27	17:00	13.0	0.423	3.1	DH48	28	382														
MAR 28	14:30		5.08	3.1	DH59	484	527	60	80	84	88	97	98	98	100				2	18	80
APR 05	11:00		5.84	3.1	DH59	328	430	77	91	97	99	99	99	100					1	8	91
MAY 26	12:25		32.4	3.1	DH59	1800	407														
JUL 20	12:00	22.0	84.6	3.1	DH59	773	188														
JUL 20	17:20	23.0	80.6	3.1	DH59	383	125														
JUL 21	16:15	22.0	44.9	3.1	DH59	126	178														
JUL 21	17:45	22.0	41.1	3.1	DH59	122	64														
JUL 26	10:50	21.0	23.9	3.1	DH59	309	181														

NOTE : SINGLE VERTICAL LOCATED AT 3.1 METRES FOR 1989

RUSCOM RIVER NEAR RUSCOM STATION - STATION NO. 02EH003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1986	--PPP-P--P--	MANUAL	433	MAR 11	38	OCT 21	***	***	***	***	***	***
1987	--PPP-P-PPPP	MANUAL	2 620	DEC 16 *	20	MAR 18 *	***	***	***	***	***	***
1988	----------P-	MANUAL	88	NOV 15	68	NOV 15	***	***	***	***	***	***
1989	--PPP-P-----	MANUAL	1 800	MAY 26	38	MAR 27	***	***	***	***	***	***

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

SALMON RIVER NEAR SHANNONVILLE - STATION NO. 02HM003

LOCATION: LAT 44 13 26 N LONG 077 12 38 W
DRAINAGE AREA: 881 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT CLAY
MAR 30	10:30	1.0	35.6	8.0	D48	16	183													
APR 11	10:45	3.0	30.2	8.0	D48	7	184													

NOTE : SINGLE VERTICAL LOCATED AT 8 METRES FOR 1988

SALMON RIVER NEAR SHANNONVILLE - STATION NO. 02HM003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1985	-PP-PP--PPPP	MANUAL	20 SEP 11 *		1 DEC 8 *		***	***	***	***	***	***
1986	P----------	MANUAL	11 JAN 21		11 JAN 21		***	***	***	***	***	***
1988	--P---------	MANUAL	24 MAR 27		24 MAR 27		***	***	***	***	***	***
1988	--PP--------	MANUAL	16 MAR 30		7 APR 11		***	***	***	***	***	***

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOUTH MAITLAND RIVER AT SUMMERHILL - STATION NO. 02FB008

LOCATION: LAT 43 41 04 N LONG 081 32 38 W
DRAINAGE AREA: 378 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: STATION ACTIVATED AS MISC. FROM SEASONAL IN 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT CLAY
MAR 29	13:35	2.0	36.0	28.0	DH59	158	304													

NOTE : SINGLE VERTICAL LOCATED AT 28 METRES FOR 1988

ONTARIO

SOUTH MAITLAND RIVER AT SUMMERHILL - STATION NO. 02FB005

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : APR-DEC MEAN LOAD (TONNES)	SUMMARY : APR-DEC HISTORICAL MEAN LOAD (TONNES)	SUMMARY : APR-DEC STANDARD ERROR OF MEAN %
1984	--PCCCCCCCCC	MANUAL	178 DEC 30		2 AUG 6 *		3 310 DEC 29		7 310	28.5	28.5	---
1985	CCCCCCCCCCCC	MANUAL	348 APR 8 *		3 AUG 14		2 360 APR 05		31 700	38.2	31.4	15.4
1986	CCCCCCCCCCCC	MANUAL	310 MAR 19		7 JAN 10		2 870 SEP 11 *		26 600 *	28.5	44.1	29.6
1987	P-CCCPPPPP-P-	MANUAL	88 AUG 3		8 NOV 3		311 MAR 20		3 230	---	---	---
1988	--P-P-------	MANUAL	134 MAR 28		7 MAY 5		--- ---		---	---	---	---
1989	--P---------	MANUAL	158 MAR 28		106 MAR 29		--- ---		---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SOUTH NATION RIVER NEAR PLANTAGENET SPRINGS - STATION NO. 02LB005

LOCATION: LAT 45 30 23 N LONG 074 57 30 W
DRAINAGE AREA: 3 810 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: SEASONAL STATION 1965

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAR 17	14:25	0.3	204	20.4	D48	124															
MAR 20	14:40	0.1	843	20.4	D48	285	140														
MAY 04	15:15	12.0	130	20.4	D48	84															

NOTE : SINGLE VERTICAL LOCATED AT 20.4 METRES FOR 1989

SOUTH NATION RIVER NEAR PLANTAGENET SPRINGS - STATION NO. 02LB005

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MAR-AUG MEAN LOAD (TONNES)	SUMMARY : MAR-AUG HISTORICAL MEAN LOAD (TONNES)	SUMMARY : MAR-AUG STANDARD ERROR OF MEAN %
1972	CCCCCCCCCCCC	DUAL	998 APR 13		14 MAY 17		28 000 APR 10		818 000	3 030	3 030	---
1973	CCCCCCCCCCCC	DUAL	687 MAY 10		15 JAN 02		33 600 MAY 10		308 000	1 800	1 770	15.0
1974	CCCCCCCCCCCC	DUAL	813 APR 06		15 JAN 11		35 600 APR 06		393 000	1 810	1 840	10.4
1975	CCCCCCCPPPPP	DUAL	295 APR 15		4 MAR 28 *		9 280 APR 20		63 500	437	1 370	24.4
1976	CCCCCCC-----	MANUAL	8 890 MAY 21 *		11 MAR 04		157 000 MAY 20 *		836 000 *	2 810	1 840	24.0
1977	P-CCCCP-CCC	MANUAL	167 MAR 17		15 DEC 19		3 640 MAR 17		58 200	---	---	---
1978	CCCPPPPPPPP-	MANUAL	435 APR 13		16 FEB 15		31 400 APR 14		310 000	---	---	---
1979	P-CCCCCCCCCC	MANUAL	435 MAR 24		18 JAN 04		30 700 MAR 25		183 000	784	1 830	23.8
1980	--CCCCPPP--	MANUAL	838 APR 10		32 MAR 13		28 800 APR 10		183 000	---	---	---
1981	-PCCCCCPPPP	MANUAL	843 JUN 23		13 MAR 21		47 700 FEB 23		248 000	384	1 370	28.2
1982	CCCCCCCCCCC	MANUAL	884 APR 01		12 JAN 12		31 800 APR 01		328 000	1 810	1 330	22.9
1983	CCCCCCCCCCC	MANUAL	87 APR 10		18 JAN 31		4 780 MAY 03		108 000	438	1 330	23.3
1984	P-CCCCPPP-PP	MANUAL	488 APR 5		10 MAR 18		33 100 APR 05		102 000	---	---	---
1988	--CCCP-P-PP-	MANUAL	418 MAR 16		24 NOV 21		9 680 MAR 18		143 000	---	---	---
1986	--PCCPP-----	MANUAL	398 MAY 21		23 MAR 25		8 330 MAR 30		43 800	---	---	---
1987	--PCCP------	MANUAL	480 MAR 28		28 MAY 13		23 200 MAR 27		118 000	---	---	---
1988	---PP--P----	MANUAL	317 APR 5		48 MAY 19		--- ---		---	---	---	---
1989	--P-P-------	MANUAL	288 MAR 30		84 MAY 4		--- ---		---	---	---	---

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

SPEED RIVER NEAR ARMSTRONG MILLS - STATION NO. 02EA040

LOCATION: LAT 43 38 19 N LONG 080 18 12 W
DRAINAGE AREA: 187 km²
TYPE OF FLOW: REGULATED SINCE 1976
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM START MARCH 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	10:50	1.0	17.5	8.0	DH59	16	178														

NOTE : SINGLE VERTICAL LOCATED AT 8 METRES FOR 1988

SPEED RIVER NEAR ARMSTRONG MILLS - STATION NO. 02EA040

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	--P-----P----	MANUAL	135	MAR 19 *	8	MAR 27	---	---	---	---	---	---
1987	---PP----P-P	MANUAL	7	MAY 28	3	OCT 1 *	---	---	---	---	---	---
1988	--P----------	MANUAL	18	MAR 24	16	MAR 28	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

SPENCER CREEK AT HIGHWAY NO. 6 - STATION NO. 02HB033

LOCATION: LAT 43 19 58 N LONG 080 03 08 W
DRAINAGE AREA: 132 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m^3/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 30	15:50	3.0	7.80	10.0	DH59	17	348														
MAR 31	13:10	3.0	6.70	10.0	DH59	15	358														
APR 07	11:40	4.0	3.89	10.0	DH48	12	570														
APR 17	09:30	8.0	1.67	10.0	DH48	10	360														
MAY 23	09:35	15.0	0.773	10.0	DH48	7	353														
JUN 28	11:05	21.0	2.08	10.0	DH48	13	338														

NOTE : SINGLE VERTICAL LOCATED AT 10.0 METRES FOR 1988

SPENCER CREEK AT HIGHWAY NO. 6 - STATION NO. 02HB033

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	--PPPP------	MANUAL	17	MAR 30 *	7	MAY 23 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

STEEL RIVER NEAR TERRACE BAY - STATION NO. 02BA002

LOCATION: LAT 48 48 40 N LONG 086 53 04 W
DRAINAGE AREA: 1 180 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 15	10:00	8.0	21.0	MID	DH48	5	86														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

STEEL RIVER NEAR TERRACE BAY - STATION NO. 02BA002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	·····P·····	MANUAL	5	JUN 15 *	5	JUN 15 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

STOKES RIVER NEAR FERNDALE - STATION NO. 03FA002

LOCATION: LAT 48 03 10 N LONG 081 30 10 W
DRAINAGE AREA: 80.6 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
NOV 22	10:15	1.0	0.363	MID	DH48	5	230														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

STOKES RIVER NEAR FERNDALE - STATION NO. 03FA002

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	··········P·	MANUAL	5	NOV 22 *	5	NOV 22 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

STONEY CREEK AT STONEY CREEK - STATION NO. 02HA032

LOCATION: LAT 43 13 31 N LONG 079 45 05 W
DRAINAGE AREA: 20.0 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 27	17:05	11.0	0.444	4.0	DH48	131	410														
APR 19	11:05	6.0	0.065	4.0	DH48	7	765														
MAY 24	15:40	21.0	0.017	4.0	DH48	2	704														
JUN 27	15:00	23.0	0.023	4.0	DH48	3	639														

NOTE : SINGLE VERTICAL LOCATED AT 4.0 METRES FOR 1988

STONEY CREEK AT STONEY CREEK - STATION NO. 02HA032

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	--PPPP------	MANUAL	131	MAR 27 *	2	MAY 24 *	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

STURGEON RIVER AT STURGEON BAY - STATION NO. 02ED018

LOCATION: LAT 44 43 48 N LONG 078 43 11 W
DRAINAGE AREA: 103 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	10:45	3.0	6.78	MID	DH48	430	118	5	6	13	31	63	79	88	96	100			90	04	6
MAR 29	13:40	2.0	12.1	MID	DH59	878	132	3	6	9	15	39	48	66	84	100			86	38	6
MAY 01	15:30	11.0	1.03	MID	DH48	4	288														
MAY 30	15:15	16.0	0.847	MID	DH48	13	221														
JUN 27	15:50	22.0	0.882	MID	DH48	11	200														
JUL 31	13:00	19.0	0.428	MID	DH48	4	218														
AUG 26	14:00	16.0	0.830	MID	DH48	4	174														
OCT 03	15:05	13.0	0.872	MID	DH48	1	184														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

ONTARIO

STURGEON RIVER AT STURGEON BAY - STATION NO. 02EB018

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : HISTORICAL STANDARD ERROR OF MEAN %
1988	--P-PPPP-P--	MANUAL	676	MAR 28 *	1	OCT 3 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

SYDENHAM RIVER AT FLORENCE - STATION NO. 02EB003

LOCATION: LAT 42 38 00 N LONG 082 00 32 W
DRAINAGE AREA: 1 180 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.015	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	PERCENT SILT	PERCENT CLAY
MAR 14	15:30	2.0	4.04		20.0	DH59	124	388														
MAR 28	15:10		19.7		20.0	DH59	186	410														
APR 05	13:30		37.4		20.0	DH59	139	444														
MAY 17	00:05	15.0	3.44		20.0	DH48	95	375														
JUN 15	11:10	17.0	2.41		20.0	DH48	115	380														
JUL 13	10:05		1.14		20.0	DH48	80	405														
AUG 15	09:30		0.678		20.0	DH48	42	380														
SEP 20	10:05		0.880		20.0	DH48	46	384														
OCT 18	09:50	9.0	1.02		20.0	DH48	26	390														
NOV 30	09:45		10.1		20.0	DH59	184	384														
DEC 15	09:20	0.5	2.83	W	20.0	DH48	4	892														

NOTE : SINGLE VERTICAL LOCATED AT 20 METRES FOR 1988

DISCHARGE SYMBOL(S): W - DAILY MEAN; ICE CONDITIONS

SYDENHAM RIVER AT FLORENCE - STATION NO. 02EB003

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : HISTORICAL STANDARD ERROR OF MEAN %
1986	-PCCCCP-PPP-	MANUAL	618	MAR 20 *	15	NOV 5	4 330	MAR 20 *	32 000 *	---	---	---
1987	--PPPPPPPPPP	MANUAL	113	MAY 22	15	MAR 17	---	---	---	---	---	---
1988	---PP--PP---	MANUAL	119	APR 13	47	SEP 20	---	---	---	---	---	---
1988	--PPPPPPPPPP	MANUAL	190	APR 5	4	DEC 15 *	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH

P - PARTIAL MONTH

* - EXTREME FOR PERIOD OF RECORD

SYDENHAM RIVER NEAR OWEN SOUND - STATION NO. 02FB007

LOCATION: LAT 44 31 31 N LONG 080 58 01 W
DRAINAGE AREA: 181 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MAR 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 01	09:55	3.0	17.0	10.0	DH59	1	158														

NOTE : SINGLE VERTICAL LOCATED AT 10 METRES FOR 1988

SYDENHAM RIVER NEAR OWEN SOUND - STATION NO. 02FB007

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)				MINIMUM (mg/L)				SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1987	--PPPPP-PPP-	MANUAL	33	SEP	10		8	MAR	17		---	---	---	---	---	---
1988	--PP-PPPPPP-	MANUAL	44	JUN	1	*	1	NOV	28	*	---	---	---	---	---	---
1989	---P-------	MANUAL	1	APR	1		1	APR	1		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

THAMES RIVER AT INNERKIP - STATION NO. 02GD021

LOCATION: LAT 43 13 05 N LONG 080 41 24 W
DRAINAGE AREA: 149 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 15	10:45	0.5	8.39	12.0	DH59	478	278	21	34	55	85	93	97	99	99	100			3	63	34
MAR 26	09:35	7.0	7.88	12.0	DH59	49	353														
APR 03	10:30	3.0	4.55	12.0	DH59	31	481														

NOTE : SINGLE VERTICAL LOCATED AT 12.0 METRES FOR 1988

THAMES RIVER AT INNERKIP - STATION NO. 02GD021

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1984	-P---P--CCCC	DUAL	1 710	FEB 16 *	6	SEP 13	7 610	FEB 14 *	20 200 *	---	---	---
1985	CCCCCCCCCCCC	DUAL	1 030	APR 5	6	DEC 6 *	3 070	APR 06	10 300	28.3	28.3	---
1986	--PPP---P---	MANUAL	308	MAR 19	7	MAY 30	---	---	---	---	---	---
1987	--PPPPPPPPPP	MANUAL	107	APR 6	6	AUG 13	---	---	---	---	---	---
1988	-PP---------	MANUAL	267	FEB 1	27	MAR 28	---	---	---	---	---	---
1989	--PP--------	MANUAL	478	MAR 16	31	APR 3	---	---	---	---	---	---

DUAL - MANUAL AND AUTOMATIC SAMPLING MANUAL - MANUAL SAMPLING

C - COMPLETE MONTH P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

TRENT RIVER AT GLEN ROSS - STATION NO. 02HK004

LOCATION: LAT 44 15 50 N LONG 077 35 10 W
DRAINAGE AREA: 12 000 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MAR 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.063	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
APR 05	10:00	3.0	346	75.0	DH59	7															

NOTE : SINGLE VERTICAL LOCATED AT 75 METRES FOR 1989

TRENT RIVER AT GLEN ROSS - STATION NO. 02HK004

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1987	--PPPPPPPPPP	MANUAL	18	APR 8	3	DEC 14 *	---	---	---	---	---	---
1988	PPPPPPPPPPPP	MANUAL	17	MAR 26 *	3	AUG 30	---	---	---	---	---	---
1989	---P--------	MANUAL	7	APR 6	7	APR 6	---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

TWENTY MILE CREEK AT BALLS FALLS - STATION NO. 02HA008

LOCATION: LAT 43 08 02 N LONG 079 23 00 W
DRAINAGE AREA: 203 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: PROGRAM STARTED MAR 1987

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 23	10:50	1.0	5.75	5.0	DH48	64	539														
APR 21	10:00	8.0	1.38	5.0	DH48	21	361														
MAY 30	09:35	22.0	0.353	5.0	DH48	5	606														
JUN 23	10:50	21.0	3.25	5.0	DH48	33	478														

NOTE : SINGLE VERTICAL LOCATED AT 5.0 METRES FOR 1988

TWENTY MILE CREEK AT BALLS FALLS - STATION NO. 02HA008

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1987	----P-PP-P--	MANUAL	15 AUG 31		6 MAY 28 *		---	---	---	---	---	---
1988	----P---P-P-	MANUAL	83 NOV 8		5 SEP 13		---	---	---	---	---	---
1989	--PPPP------	MANUAL	84 MAR 23 *		5 MAY 30		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WEST BRANCH LITTLE CATARAQUI CREEK AT KINGSTON - STATION NO. 02HM008

LOCATION: LAT 44 14 24 N LONG 076 26 44 W
DRAINAGE AREA: 4.08 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)		SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 10	08:05	3.0	0.280	N	1.4	DH48	137	703														
MAR 28	13:15	4.0	0.413	N	1.4	DH48	93	623														
MAY 25	08:10	14.0	0.042	N	1.4	DH48	9	690														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

DISCHARGE SYMBOL(S): N - DAILY MEAN

WEST BRANCH LITTLE CATARAQUI CREEK AT KINGSTON - STATION NO. 02HM008

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	STANDARD ERROR OF MEAN %
1988	--P-P-------	MANUAL	137 MAR 10 *		9 MAY 25 *		---	---	---	---	---	---

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WHITESAND RIVER ABOVE SCHREIBER AT MINOVA MINE - STATION NO. 03BA005

LOCATION: LAT 48 53 46 N LONG 087 31 53 W
DRAINAGE AREA: 20.8 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1988

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
JUN 22	13:00	12.0	.044	M	MID	DN46	7	267													

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

DISCHARGE SYMBOL(S): M - DAILY MEAN

WHITESAND RIVER ABOVE SCHREIBER AT MINOVA MINE - STATION NO. 03BA005

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)		SAMPLED CONCENTRATION MINIMUM (mg/L)		SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)		SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	HISTORICAL MEAN LOAD (TONNES)	HISTORICAL STANDARD ERROR OF MEAN %
1988	·····P·····	MANUAL	7	JUN 22 *	7	JUN 22 *	···	···	···	···	···	···

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WINISK RIVER BELOW ASHEWEIG RIVER TRIBUTARY - STATION NO. 04DC001

LOCATION: LAT 54 31 00 N LONG 087 14 00 W
DRAINAGE AREA: 50 000 km²
TYPE OF FLOW: NATURAL
TYPE OF GAUGE: RECORDING

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1988

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE SAMPLING VERTICAL (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAY 30	14:15	8.0	784	MID	SURF	13	33														
AUG 11	11:20	21.0	322	MID	SURF	5	30														
SEP 21	15:00	12.0	395	MID	SURF	6	32														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1988

WINISK RIVER BELOW ASHEWEIG RIVER TRIBUTARY - STATION NO. 05DC001

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	SAMPLED CONCENTRATION MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1975	·····P·····	MANUAL	48 JUN 02 *	48 JUN 02	··· ···	···	···	···	···
1976	·····P····	MANUAL	13 SEP 26	13 SEP 26	··· ···	···	···	···	···
1980	····P·P·····	MANUAL	28 JUL 07	16 MAY 08	··· ···	···	···	···	···
1984	····P···P···	MANUAL	7 MAY 31	6 SEP 3 *	··· ···	···	···	···	···
1985	·····P·P···	MANUAL	9 JUL 11	7 SEP 30	··· ···	···	···	···	···
1987	····P·P·····	MANUAL	18 JUL 15	17 MAY 12	··· ···	···	···	···	···
1988	·····P····	MANUAL	16 SEP 26	16 SEP 26	··· ···	···	···	···	···
1989	····P··PP···	MANUAL	12 MAY 30	8 AUG 11	··· ···	···	···	···	···

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

WYE RIVER NEAR WYEVALE - STATION NO. 02ED013

LOCATION: LAT 44 26 58 N LONG 079 54 16 W
DRAINAGE AREA: 118 km²
TYPE OF FLOW: REGULATED
TYPE OF GAUGE: RECORDING

REMARKS: FIRST SAMPLE 1989

INSTANTANEOUS SUSPENDED SEDIMENT FOR 1989

DATE	TIME	WATER TEMP. (°C)	INSTANT. DISCHARGE (m³/s)	SINGLE VERTICAL SAMPLING (m)	TYPE OF SAMPLER	INSTANT. CONCENT. (mg/L)	DISSOLVED SOLIDS (mg/L)	PERCENT FINER THAN INDICATED SIZE, IN MILLIMETRES .002	.004	.008	.016	.031	.062	.125	.250	.500	1.00	2.00	PERCENT SAND	SILT	CLAY
MAR 28	15:30	5.0	10.0	MID	DH59	208	171	17	24	29	41	55	68	78	87	100			36	42	24
MAR 30	14:10	6.0	10.5	MID	DH59	131	148	31	45	54	62	67	84	88	98	100			6	46	48
MAY 01	11:45	11.0	0.486	MID	DH48	48	203														
MAY 30	12:50	16.0	0.837	MID	DH48	47	204														
JUN 27	12:10	22.0	0.868	MID	DH48	32	220														
AUG 02	12:00	22.0	0.162	MID	DH48	56	182														
AUG 28	10:15	16.0	0.150	MID	DH48	58	216														
OCT 03	11:55	13.0	0.367	MID	DH48	88	80														

NOTE : SINGLE VERTICAL LOCATED AT MID (MID STREAM) FOR 1989

WYE RIVER NEAR WYEVALE - STATION NO. 02ED013

HISTORICAL SEDIMENT DATA SUMMARY

YEAR	PERIOD OF OPERATION SUMMARY (JFMAMJJASOND)	TYPE OF SAMPLING	SAMPLED CONCENTRATION MAXIMUM (mg/L)	SAMPLED CONCENTRATION MINIMUM (mg/L)	SUSPENDED SEDIMENT LOAD MAXIMUM DAILY (TONNES)	SUSPENDED SEDIMENT LOAD TOTAL FOR PERIOD (TONNES)	SUMMARY : MEAN LOAD (TONNES)	SUMMARY : HISTORICAL MEAN LOAD (TONNES)	SUMMARY : STANDARD ERROR OF MEAN %
1989	··P·PP·P·P··	MANUAL	208 MAR 28 *	48 MAY 1 *	··· ···	···	···	···	···

MANUAL - MANUAL SAMPLING

P - PARTIAL MONTH * - EXTREME FOR PERIOD OF RECORD

STA. NO.	NAME	PAGE
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02EE017	HOG CREEK NEAR VICTORIA HARBOUR	24
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02GC010	CATFISH CREEK NEAR SPARTA	13
02GC022	NANTICOKE CREEK AT NANTICOKE	37
02GC026	BIG OTTER CREEK NEAR CALTON	8
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02HC018	LYNDE CREEK NEAR WHITBY	33
02HC023	ROUGE RIVER NEAR MARKHAM	42
02HC024	ROU RIVER AT TORONTOOOO	10
02HC028	HUMBER RIVER AT ELDER MILLS	26
02HC030	LITTLE ROUGE CREEK NEAR LOCUST HILL	31
02HC040	STOUICOKE CREEK BELOW QUEEN ELIZABETH HIGHWAY	26
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02MC001	RAISIN RIVER NEAR WILLIAMSTOWN	41
04DC001	WINISK RIVER BELOW ASHUWNIG RIVER TRIBUTARY	54
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